

# American Artisan

and Hardware Record

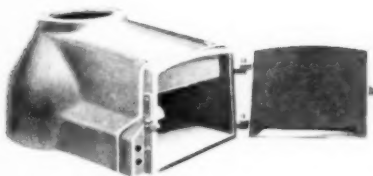
## Sheet Metal Work-Warm Air Heating

Vol. 94, No. 4

CHICAGO, JULY 23, 1927

\$2.00 Per Year

### Frameless Doors Insure Clean Air



Frameless  
Feed Door

**I**N the SUPERIOR Furnace the Combustion Dome and Feed Section with bottom plate are cast in one piece, and fitted with a Frameless Feed Door. No bolted or cemented joints—therefore no leakage of gas or smoke.

The Ashpit Section also extends through the front and is fitted with a Frameless Door. So there's no chance for dust to enter the air passages.

You can promise your customers **clean** air as well as warmth—a selling argument in favor of the SUPERIOR. Write for more interesting details.

UTICA HEATER CO., UTICA, N. Y.  
365 E. Illinois St. Chicago, Ill.

*Makers of Superior Pipe and  
New Idea Pipeless Furnaces*

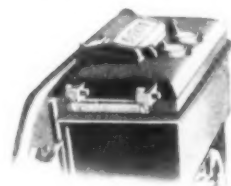
## SUPERIOR

### WARM AIR FURNACE

SUPERIOR DEALERS ARE EXCEPTIONALLY LOYAL. WHY?



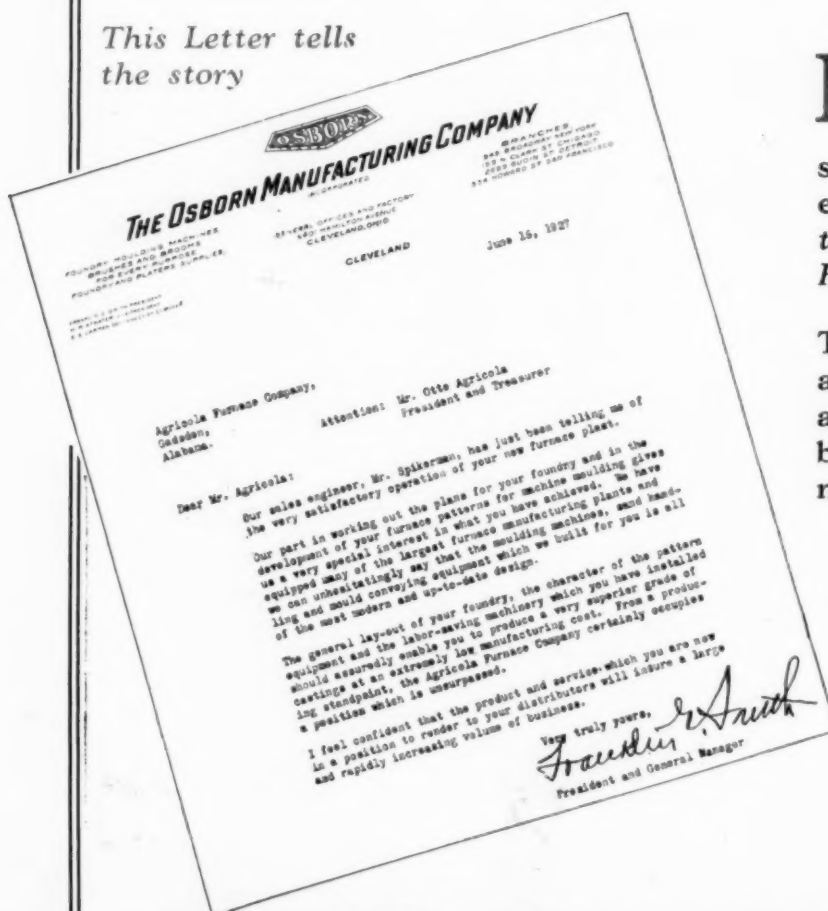
Frameless  
Ash Pit Door





## *The Home of the Agricola Furnace* The Plant that was Designed and Built To Build a Better Furnace "The Agricola"

*This Letter tells  
the story*



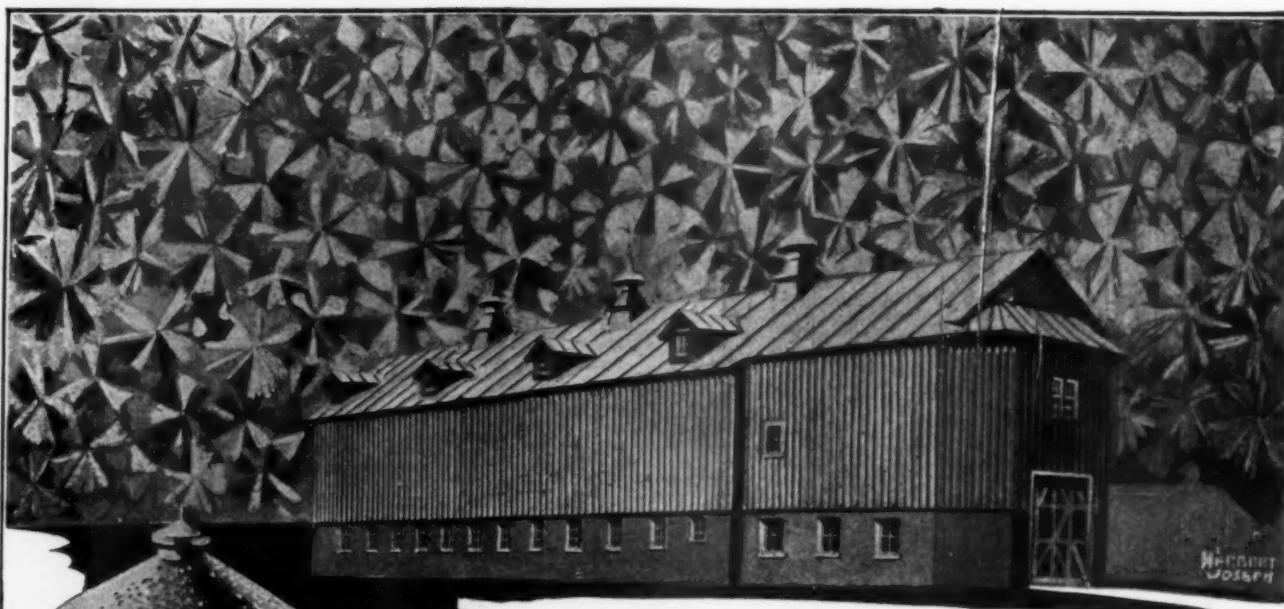
**P**ICTURED here is the home of the Agricola Furnace—a plant designed and constructed by experts for one purpose—to Build Better Warm Air Furnaces.

This ideal layout with new and perfected equipment and methods insures a better furnace at a lower manufacturing cost.

**R**ECOGNIZED jobbers and dealers are invited to learn of this BETTER furnace manufactured under ideal and lower factory costs

**AGRICOLA FURNACE CO.**  
GADSDEN, ALABAMA

**1928 will be an Agricola year**



## Increase Your Sheet Steel Business *Automatically*

Here is a simple formula for building up your business on sheet steel and products made of it:

1. Use the sales helps and leads offered by the Sheet Steel Trade Extension Committee, Oliver Building, Pittsburgh, Pa.
2. Sell or use only such makes of sheets as invariably render satisfactory service.
3. For roofing and exposed uses adhere to the Simplification Committee's recommendations of 28 gauge or heavier.
4. Whenever practical use the "TEC" Master Brand.

Sales or jobs that prove satisfactory automatically sell others. Sheet Steel thus grows in public esteem. You build up valuable good will for yourself.

Now, just a few words about Inland Sheets. They have been developed for ease of working in the shop and for satisfactory, enduring service on the job. They are soft, workable and uniform. The tenacious coatings are generous. Inspections are rigid.

### INLAND STEEL COMPANY

38 South Dearborn Street, Chicago

Works: Indiana Harbor, Ind.; Milwaukee, Wis.; Chicago Heights, Ill.  
Branch Offices and Representatives: St. Paul, St. Louis, Salt Lake City, Milwaukee, Kansas City, New Orleans, El Paso



#### Inland Copper Alloy for Exposed Uses

As a base for regular or Master Brand sheets demand "Inland Copper Alloy." The cost is but a fraction more. Inland Copper Alloy Steel Sheets are durable all the way through. They resist corrosion to a remarkable degree. You will like them. Your customers will too.

Contributing Member  
**SHEET STEEL**  
TRADE EXTENSION COMMITTEE



## *The strong back that carries a big load for many years—*

**NOTICE** this powerful back—these radiators on the "Home Comfort" are built on curved lines with no square corners. This construction provides immense and perfect radiation—the steel vertical tubes and the fire travel arrangement securing all the heat possible from the fuel consumed.

The Dust Box is one piece solid heavy casting with two clean-outs attached that protrude through the casing—no bolted or cemented joints. Notice the extra wide circuit of the radiators, allowing a free circulation of air around the rear part of the furnace, eliminating what has proven to be one of the weak parts in furnaces of similar construction. This is an exclusive feature of the

## **"HOME COMFORT"**

(TRADE MARK REGISTERED)

**WE** have told you here only one part of the big Home Comfort story. Its entire construction is first quality in design and material. We want you to write now for our catalog which gives complete details.

The agency for the sale of "Home Comfort" Steel Furnaces in your territory is bound to make more business and profits for you.

Your customers will boost the "Home Comfort"—they can't help it—its quality keeps them satisfied a lifetime.

*Write today for our new booklet—"The Joy of Home Comfort" and a booklet called "House Heating"*

**ST. LOUIS HEATING COMPANY**  
2901-11 Elliot Ave. St. Louis, Missouri.

**PITTSBURGH DISTRIBUTOR**  
Wagner Bros., 3605 East Street



*A high quality furnace designed according to the Standard Code requirements for Standard Code installations*

## *The* **NEW FLORAL CITY QUEEN FURNACE**

**THE** size of the casing and the relation of radiating surface to grate area have been carefully figured out according to the Standard Code and the ratings on this furnace are also as determined by the Code. That's a good selling point to make along with your Code installation—a real Code furnace.

*Here are Some of the New Features:*

1. Large one-piece cast radiator with extra large opening from combustion chamber with direct-indirect draft damper.
2. Smoke and cleanout collar extend through the casing and front. Throats of feed door and ash pit extend through front and both doors and throat are disc ground to insure perfect fit.
3. Only four joints inside casing and these joints are extra deep covered joints.
4. Extra large water pan—lever shaker handle—rocker type grates—heavy ribbed two-section straight fire pot—large one-piece roomy ash pit and other improvements.

*Write for our agency proposition today*

**Floral City Heater Company**  
MONROE, MICHIGAN

CHICAGO OFFICE  
1654 Monadnock Building

DETROIT BRANCH  
4452 Cass Avenue

*The latest news about the Warm Air Heating  
Industry is to be found in this Journal every week.*

*This is the only trade Journal covering this field published every week.*

*Mention AMERICAN ARTISAN in your reply—Thank you!*



## "Western" Boiler Plate



## Have a Handsome Sample on Your Floor!

Let us send you a Western Furnace all painted up in red, black and gold, ready for your display floor.

Now is the time to interest people—early before the fall rush begins.

Write about our attractive dealers' proposition, and special selling plan on the popular selling Western Furnace. It includes long profits for the dealer and a liberal basis of financing.

The Western Furnace has many other practical features of design which make it an unusually easy and satisfactory heater to sell. Among them are the top, corrugated to take up expansion and contraction, and heavy double grates which are easily shaken from a standing position.

Every joint possible in the Western has been eliminated. The radiator walls are made of a single sheet and the front extension is one piece with the body. The collar connections have telescopic joint, asbestos packed. The Western Furnace stays dust proof.

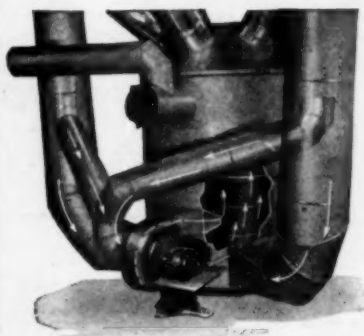
### Western Steel Products Co.

130 Commonwealth Ave.

Duluth, Minn., U. S. A.

Chicago Office and Warehouse: 3025 West Van Buren Street  
Phone Nevada 6712

## INCREASE HEATING EFFICIENCY AND PROFITS BY INSTALLING



**The Heat-O Booster** draws cold air directly from the rooms or from the return air pipes. Air is discharged directly and uniformly against the hottest parts of the furnace, extracting more heat units. When the return air rises the Heat-O Booster shoots it up into the casing, through the leaders with sufficient force to overcome any resistance or cold air pressure.

The HEAT-O LINE is adaptable to any furnace—cast or steel. Installations have been made with many well known furnaces—Thatcher, Utica, Robinson, International, Gilt-Edge, Mueller, Premier, Round Oak, Rudy, Richardson & Boynton, Cribben & Sexton, Moore Bros., Holland, Weir, Torrid Zone, Marshalltown, Success, Colburn, etc. Whatever line you handle, get the facts about this better method of heating. The HEAT-O LINE is the ideal fan-furnace system for homes, churches, schools, stores, factories, shops, garages, etc.

Designed by expert furnace engineers who have supervised hundreds of successful installations—their help is yours for the asking. Write today for full particulars about the HEAT-O LINE.

Easily done with HEAT-O BOOSTERS. Amazing results have been accomplished with this finer way of heating—customers more than satisfied—dealers make more money.

The HEAT-O LINE has innumerable selling arguments: Heat reaches rooms quickly, as soon as the fan is started; heat in rooms is more evenly distributed from floor to ceiling; furnace castings never overheated; fuel consumption 10 to 60 per cent lower; better all-round results from the furnace. The HEAT-O BOOSTER system is the finest fan-furnace installation that money can buy—it gives dependable, economical, positive heat. Distinctive design and exclusive features—should not be confused with the ordinary fan-furnace job.

### BUILT TO FIT ANY WARM AIR FURNACE



**Boosters and Unit Heaters.** The Ideal Fan-Furnace Equipment for Residences, Churches, Schools, Stores, Factories, Theaters—wherever dependable, economical warm air systems are desired.



**Style A Booster.** An original idea, by far the most advanced step in furnace-fan heating. Shipped complete—nothing to get out of order—merely hang it inside the casing or cut a slot in it to install the booster.

## ROBINSON FURNACE COMPANY

205-7 West Lake St.

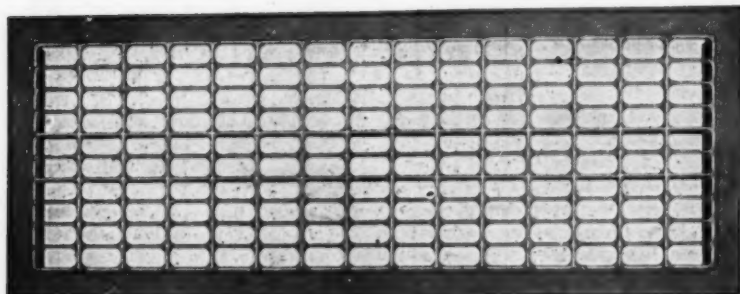
Heating Systems Division

CHICAGO

Mention AMERICAN ARTISAN in your reply—Thank you!

# The HART & COOLEY MFG. COMPANY

Announces that  
its  
No. 255 SERIES



of  
**Steel**  
**Cold Air**  
**Faces**

has been augmented  
by sizes

	AIR CAPACITY SQ. INCHES	PIPE SIZES	PIPE CAPACITY	BLACK JAPAN	OAK FINISH
8 x 30 .....	180	14	154	\$3.60	\$ 3.85
16 x 30 .....	360	20	314	5.50	6.00
24 x 30 .....	540	26	530	9.50	10.00

(ALSO ELECTROPLATED FINISHES)

*This Economical and Efficient*

## ALL METAL COLD AIR FACE

*Is Now Available in Sizes:*

12 x 14 for.....12" Pipe	12 x 24 for.....16" Pipe	18 x 30 for.....22" Pipe
8 x 30 for.....14" Pipe	12 x 30 for.....18" Pipe	20 x 30 for.....24" Pipe
16 x 24 for.....14" Pipe	14 x 30 for.....20" Pipe	24 x 30 for.....26" Pipe
10 x 30 for.....16" Pipe	16 x 30 for.....20" Pipe	

THE HART & COOLEY MFG. COMPANY, New Britain, Connecticut

PHILADELPHIA: Real Estate Trust Bldg.

CHICAGO: 61 W. Kinzie St.

NEW YORK: 501 Fifth Ave.

(WESTERN WAREHOUSE AT CHICAGO)

EASY  
TO INSTALL

CLAMPS  
ON

NO  
BOLTS

REVERSIBLE

CUTS  
LABOR 1/3

EASY TO  
REMOVE

NO TEE  
JOINT

WRITE FOR PRICES

TEELA SHEET METAL CO. — OSHKOSH, WIS.

**The NEW TEELA** BOLTLESS  
REVERSIBLE  
CHECK DRAFT

# REPAIRS

for **STOVES-FURNACES-BOILERS**

Send for our illustrated Order Blanks

**NORTHWESTERN**  
**STOVE REPAIR CO.** CHICAGO-ILLINOIS

## BOLTS

WE MANUFACTURE A COMPLETE  
LINE OF BOLT PRODUCTS, INCLUDING  
STOVE BOLTS, CARRIAGE BOLTS,  
MACHINE BOLTS, LAG BOLTS, NUTS,  
COTTER PINS, ETC. ALSO STOVE  
RODS, SMALL RIVETS AND HINGE  
PINS, CATALOG ON REQUEST.

**THE KIRK-LATTY CO.**  
1971 W. 85th St. Cleveland, O.

**PATTERNS FOR STOVES  
AND HEATERS**  
THE CLEVELAND CASTINGS PATTERN COMPANY  
CLEVELAND, OHIO

**PATTERNS**  
FOR STOVES AND HEATERS FIRST-CLASS  
IN WOOD and IRON  
VEDDER PATTERN WORKS ESTABLISHED 1835 TROY, N. Y.

IRON AND WOOD  
**STOVE PATTERNS**  
QUINCY PATTERN COMPANY  
QUINCY, ILLINOIS

## The Eyes Have It

The average man or woman cannot tell whether a furnace is correctly designed or not; but if it is well finished and good-looking, a long step has been made towards a sale.

That is where the good proportions, ground joints, and smooth finish of the new Series "C" count big. They make selling easy and, you can depend on it, the performance of the furnace will back up the looks.

This new Moncrief is the furnace for you to build a good business on.

*Write for details*

### The HENRY FURNACE & FOUNDRY CO.

3471 E. 49th St. Cleveland, Ohio

*We supply everything used on a warm air heating job.*

#### Distributors:

Carr Supply Co., 412 No. Dearborn St., Chicago, Ill.  
Johnson Furnace Co., Kansas City, Mo.

E. W. Burbank Seed Co., 29 Free St., Portland, Me.

J. F. Conant, Railway Terminal Warehouse,  
Troy, N. Y.

Wilkes-Barre Hardware & Stove Co.

18-20 So. Washington St., Wilkes-Barre, Pa.

Moncrief Furnace Co., Atlanta, Ga.

Moncrief Furnace & Mfg. Co., Dallas, Texas



# MONCRIEF FURNACES

*The large increase in Wise business has again proved Wise leadership in bringing out ~*



WISE OPEN DOME  
CAST FURNACE

### A Better Fire Pot



WISE 20 SERIES CAST  
FURNACE

### A Better Radiator



WISE STEEL FURNACE

### A Better Steel Furnace

\*FIND out now all about the Better Wise Steel Furnace and the big improvements on the famous Wise Cast Furnaces—Write for special broadsides and our new Catalog No. 23, just off the press, which illustrate and describe Wise furnaces and these new improvements in detail.

**The Wise Furnace Company**  
AKRON, OHIO



**Would You Shut Up Shop for Three Months?**

When the first roller skates of spring clatter down suburban streets and the green begins to appear on the lean willow twigs, a curious madness seizes upon some people. They dictate a note to the general effect that their advertising will be cut in half or discontinued entirely during June, July and August. Having sent this note to their advertising agent or to a list of publications, they, in the manner of men who have accomplished a clever piece of work, set off for the links to try out the new mashie.

But we wonder if the men who dictate such notes in the spring realize what they are really saying to their own organizations. Some self-styled experts have maintained that advertising is 23 per cent less effective during the three summer months. This statement is not conceded but, in the manner of Hans Christian Anderson, let's suppose it is true. Were the owner of a business to weigh the effect on his own organization against that supposed saving, he would never send the note. What such a note actually says to the man's own organization is "Let's all take it easy. We are not going to make any effort to help make your selling easier, gentlemen of the sales force. Here, then, are three lovely months in which you may improve your golf game. Instead of going out hard after orders this July, why not get rid of that disconcerting slice which robs your drive of at least twenty yards in distance? Don't work, office boy. Go to the ball game. Use that new bathing suit at least three times a week, stenographer."

An order cutting down advertising effort is notice in advance that a period of undisturbed and restful calm is expected by the management. No need to rush about after prospects — here comes a period of comforting repose.

Don't write letters or make selling plans; go out in the woods to loll at leisure under a sycamore tree.

Don't work very hard; just drone and dawdle through the drowsy days ahead.

Relax. Let down. Be languid. Not much doing in the summer months, so take it easy.

If, when he was dictating a seasonal note to cut down his company's advertising effort, the president would consider himself posting around the plant sentiments like these, he might hesitate.

And now to add one serious word of advice to a somewhat satiric treatment of the dangerous habit of cutting off advertising effort in the summer months: Let all advertisers consider carefully what other concerns have done to knock out the so-called "summer slump" before they decide not to advertise.

Remarkable things have been accomplished by men who analyzed their markets and products more carefully, who refused to believe that customers spend three months in a hammock under the trees.

And every time real results in taking sales slumps out of summer have been attained, advertising has played a most important part.

This summer of all summers during the past five years, is most dangerous to the man who thinks he can cancel advertising and travel on momentum.

There will be ample business next fall for the people who keep after it during the dog days. But those misguided ones who serve notice on their whole organization to take it easy by cancelling advertising during the summer are going to discover when fall comes that consistent advertising and sales effort during this important summer have given their competitors a big head start.

*Editorial reprinted from  
PRINTERS' INK*

Published to Promote  
Better  
Warm Air Heating  
and  
Sheet Metal Work

Founded 1880

# American Artisan

and Hardware Record

## Sheet Metal Work-Warm Air Heating

Yearly Subscription  
Price:  
United States.....\$2.00  
Canada .....\$3.00  
Foreign .....\$4.00

Published EVERY SATURDAY at 620 South Michigan Avenue, Chicago

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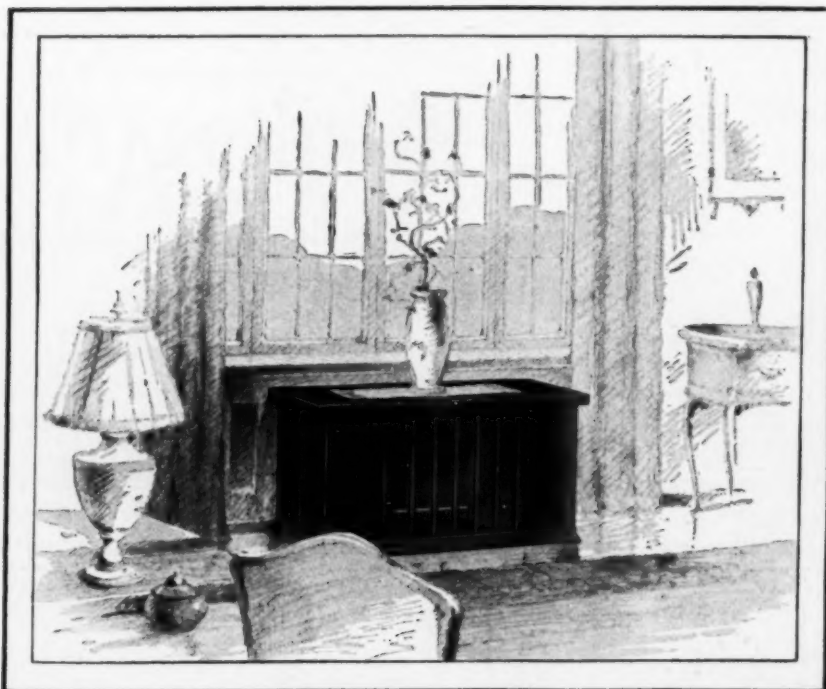
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### Coming

*The July 30th issue of AMERICAN ARTISAN will be an epoch maker. In it will appear the first of a series of furnace "Data Sheets," prepared by L. W. Millis, who is known to be one of the best posted men in the industry. These "Data Sheets" are simple, connected as to subject and sufficiently complete to enable any furnace installer to do good work in workmanship and design.*

*Majestic*  
**REGISEAT**  
 HEATER



# *A Whole House Heated from this* **WINDOW SEAT**

*Mail This  
 for the Sales  
 Opportunity  
 It Offers You*

THE MAJESTIC COMPANY, Huntington, Indiana

Please send full information about  
 the Majestic Regiseat Heater

Name \_\_\_\_\_

Address \_\_\_\_\_

**T**HE new Majestic Regiseat Heater—an entirely different system of warm air heating—heats a whole house from a window seat! Yet it is in no sense a “room heater”—nor a glorified stove. It is a real furnace located in the basement where it belongs, operating in combination with the exclusive, patented Regiseat. For small or medium sized homes and for stores the Majestic Regiseat Heater is nothing short of a sensation. It provides ample, uniform warmth for the entire house, gives thorough air circulation, ends draughty floors and costs little to buy or maintain. The Regiseat itself has the appearance of a handsome window or wall-seat and is to be used as such—without the slightest interference with its heating efficiency. You will be interested in the complete story of this new warm air heating system and the opportunity it offers you. Mail the coupon for “The Story of A New Idea in Heating.”

THE MAJESTIC CO. :: HUNTINGTON, IND.





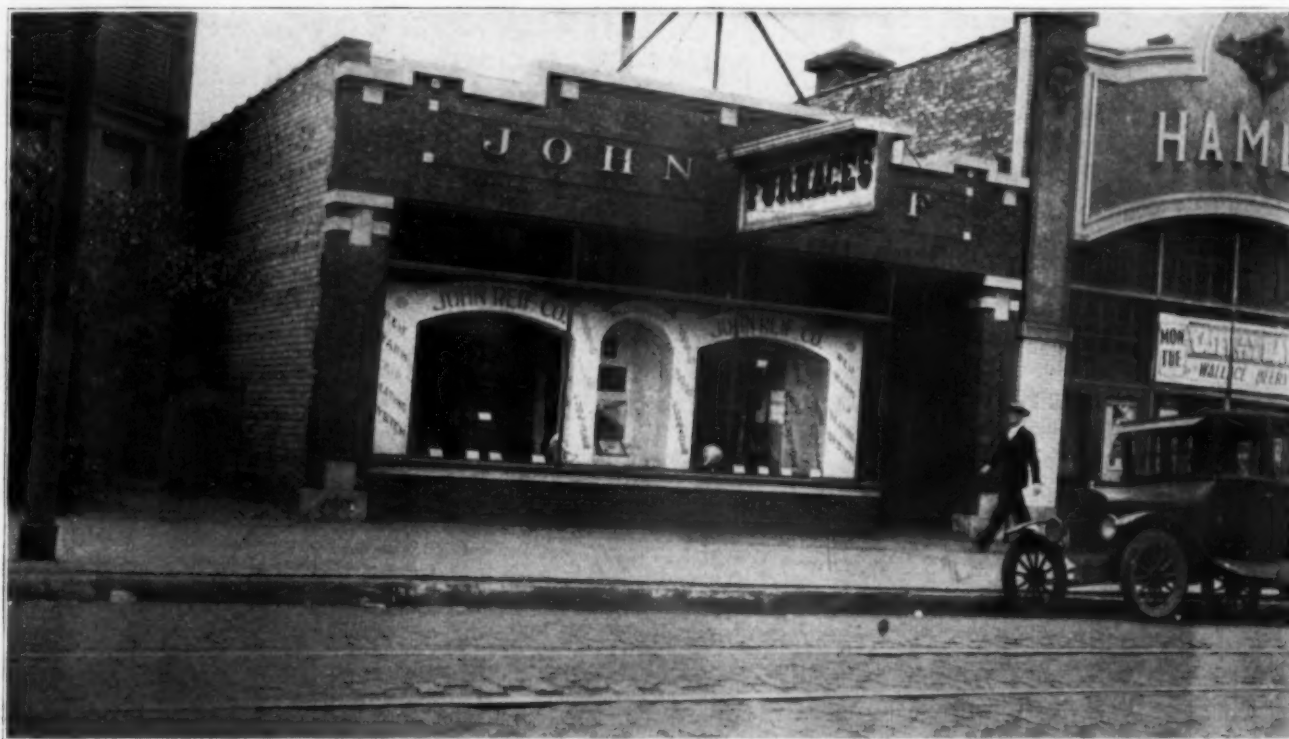
# American Artisan and Hardware Record



Vol. 94.

CHICAGO, JULY 23, 1927

No. 4.



An Attractive Warm Air Furnace Display in the Window of the John Reif Company, 2049 Belmont Avenue, Chicago.  
This Window Has Proved Its Worth Many Times Over

## Unique Demonstration Employed by Chicago Furnace Installer

*Employs Information and Research Data to Increase Sales*

FOR a man with genuine interest in the future of the warm air heating and sheet metal industries, Mike Reif, proprietor of the John Reif Company, 2049 Belmont Avenue, Chicago, warm air heating and sheet metal contractor, is hard to surpass.

One of his most outstanding characteristics is that he actually believes that a warm air heating system is the best system to employ as a heating unit. In order to convince his prospects of the truth of his as-

sertions and beliefs, he has garnered in his office the most authoritative information on the subject that he can get.

In the first place he has all of the bulletins of the University of Illinois dealing with warm air heating and made available by the research work that has been carried on there. He not only has these bulletins in his office, but he has read them and studied them thoroughly. He has made notes on what he has found in them with which he has built up a

line of sales conversation that would convince the most doubting of the Thomases.

Mr. Reif believes absolutely in the power of the display and demonstration to sell warm air heating, or to kill the sale of this equipment, as the case may be. As proof of this fact, view the illustration of one of his many window displays. But Mr. Reif has gone farther than this in his efforts to convince folks that warm air heating is the best system they can employ.

Were you to step into his sales rooms at 2049 Belmont Avenue, the first object that would attract your attention would be the warm air heating system set up in that sales room. This heating system is connected with the chimney and is equipped with an oil burner, so that it can be turned on at any time and demonstrated to the prospective purchaser.

The heating system is also equipped with a fan. The ends of the warm air pipes in the upper part of the system are fitted with register boxes and registers, just as if the system were installed in the basement of a home. Stuck into each register is a small wind mill, and when the fan is started, these small wind mills at the registers immediately begin to revolve rapidly. You can readily appreciate how this type of demonstration tends to break down sales resistance. The oil burner is turned on, the fan then goes on and in a short space of time the warm air is being blown from the warm air ducts. What better demonstration could a warm air furnace installer require? An ozonator is also a part of the demonstrating equipment.

In the construction of the ducts on this demonstrator furnace, Mr. Reif took particular pains not to use just ordinary bends and curves. He saw a chance to show the difference between an easy curve and a sharp bend, which causes air turbulence and thus decreases efficiency.

Mr. Reif has carried this actual demonstration idea to its farthest limits. In his brief case he carries specimens of iron plats and sheets of his products and those of the competitors. In talking to a prospect, when he gets to the point of describing the products, he brings out these specimens and allows the prospect to examine them and weigh them in his hands.

Mr. Reif is also a pretty keen judge of human nature. His ability to size up a prospect assists him very materially in judging what type of sales tactics will produce the most favorable reaction.

One day while I happened to be

in his sales room an elderly gentleman came in to see about getting a warm air heating system put into his home. In this instance very little time was spent talking about the Standard Furnace Code, but rather almost the entire conversation hinged upon the price of the installation. The Code was brought in casually, but Mr. Reif knew that such information would go entirely over the prospect's head. This statement should not be construed, however, as meaning that Mr. Reif does not on all occasions attempt to sell the Standard Furnace Code. The Standard Furnace Code never had a more ardent advocate than it has in Mr. Reif. But where he knows his man and knows him to be chiefly interested in price, he goes rather easy on mention of the Code until he has him sold.

The warm air heating industry is exceedingly fortunate to have men of the calibre of Mike Reif in the distribution end of its business. His knowledge of the industry and of human psychology, and his adeptness in the use of these two types of knowledge to increase the number of warm air heating units in the service of the public, stands the industry itself in good stead. His whole heart and soul are tied up in the warm air heating industry.

There are instances on record where Mr. Reif has gone into the basement of a home where some competitor had put in a furnace, examined the installation and given the home owner information that would enable him to check up to see if the installation were a real Standard Code job. In some of these cases the jobs, although represented as being Standard Code installed, fell far short of Code work, and the owner has been able to make the original installer toe the mark.

Such policing as this is absolutely essential to the success of the industry, and Mike Reif deserves a great deal of credit for his perseverance in ferreting out these blights to the industry, although he knows that every time he does it, he is almost certain to make an enemy of the installer he calls to time.

### **Cheers, Not Jeers, for the Man with Ideals and a Goal Ahead**

Right here in Chicago there were two brothers, young men. One was a commonplace fellow who plodded along in minor salaried jobs. Nobody expected much of him. When his name was mentioned he was praised as a good steady chap. No one ever thought of blaming him for lack of ambition.

The other, four years older, had high ideals. He saved up some money and started a small business. He failed. He was sneered at. He got on his feet again and organized a company to build a railroad. This "fopped" also. Again criticism broke out. Notwithstanding his setbacks he was actually earning more money by far than his brother and climbing to a higher repute socially. Not until he at last succeeded in one of his ambitious plans did the back-biting stop.

The point here is that if a man sets up a mark at which he is shooting, the world judges him by his own standards, not by his rise above the common level. The younger brother evidently was not trying to rise; people merely saw that he was steady and industrious and praised him unreservedly. The other dared to aspire, and when he failed the gossips saw only the distance between him and his self-chosen goal, not the distance between him and the average level.

Any young man who tries to make something of himself should be encouraged, even if he fails at first. He should be cheered, not jeered. Give him credit for high aims. He will be heartened to try again and may succeed.

When Miss Ederle swam the Channel we gave her an ovation, though she just made it with little to spare. She was so tired that her father in the boat alongside begged her to give up before she reached Dover.

Miss Clarabelle Barrett of Pelham, New York, attempting the same feat, just missed. But to the credit of this country be it said that

when she returned here, defeated, we turned out and gave her a good reception. In this case we judged by the gallant effort, not by the discouraging failure. That is what should be done always.

Cheers, not jeers, should be given any sheet metal man who dares, hopes, attempts, works. Such are of finer clay than the dullards who creep close to the ground, never spreading their wings.

## Walter C. Carroll Becomes Chairman of the Sheet Steel Trade Extension Committee

*Also Accepts the Presidency of the National Association of Sheet and Tin Plate Manufacturers*

**A**FTER August 1st, Walter C. Carroll, since 1921 vice-president of the Inland Steel Company, Chicago, will make his headquarters in the Oliver Building, Pittsburgh, where he will take up his new duties as chairman of the Sheet Steel Trade Extension Committee and president of the National Association of Sheet and Tin Plate Manufacturers. His resignation from the

Princeton University in 1899, after which he entered the Harvard Law School, for two years dividing his studies between the post-graduate department and the law school.

In 1901 Mr. Carroll started his career in the sheet steel field by entering the employment of the American Sheet Steel Company, gaining his first actual mill experience in their Vandergrift, Pennsylvania, plant. Two years later he was transferred to the sales department at Detroit, and in 1904 when this company consolidated with the American Tin Plate Company, forming the American Sheet and Tin Plate Company, he was made manager of sales at San Francisco. After three years as manager of sales in St. Louis, where he had been transferred in 1906, Mr. Carroll was promoted to the office of assistant general manager of sales, with headquarters at the general offices in Pittsburgh, where he remained until his affiliation with the Inland Steel Company.

During the World War Mr. Carroll served on the sub-committee on sheet steel.



Walter C. Carroll

Inland Steel Company becomes effective at that time.

Mr. Carroll is very well known to the trade and one of the most ardent workers in the sheet industry. The associations are both to be congratulated upon their choice of executives.

Mr. Carroll is a native of Baltimore, having graduated from

daily strongly bear out this point.

The Wise Furnace Company of Akron, Ohio, are now distributing their new complete catalog number 23, which they will gladly send on request to interested furnace men.

In addition to including the complete transcript of the Standard Code, there are several valuable tables, and a full page devoted to "Advantages of Warm Air Heating Furnaces Over Steam and Hot Water for Heating Our Homes," which is so convincing that it sounds like it was prepared by "Willard G." himself.

### A Statement of the New Business Philosophy.

Certainly there is no profit in cultivating false pride, a closed mind, an unreasonable prejudice. The truth is that these stupidities cost the business world millions of dollars each year.

It doesn't take a salesman long to learn that a testimonial from Brown not only may not convince Jones of the merit of a device or product, but may actually prejudice Jones against it, assuming Jones doesn't like Brown.

What a lot of us are victims of closed minds! The closed mind first ridicules and then resents. To the closed mind the accumulated proof that its first judgment was entirely wrong is simply added reason for opposition.

We might as well realize that changes are inevitable. We may be tired of making adjustments. We may have reached the age when we prefer to let things remain as they are. We may have grown weary of replacing usable but out-of-date equipment. But we cannot stand still.

Why aren't we more sensible? Why we are afraid of the facts, the truth? Would any of us pay ten thousand dollars a year for the privilege of being stubborn? We may not know it, but possibly some of us pay even a greater price than that. The steel manufacturers who resisted the Bessemer process certainly paid a far higher price.

### The Manufacturers' Catalog Is No Longer Just an Illustrated Price Book

The day has passed when a catalog was just a description of merchandise with price list and discount sheet, prepared by some clerk.

The manufacturer today realizes that his catalog must be more than an illustrated price list, if it is going to stay out of the waste basket, and the catalogs which come to us



# Missouri Sheet Metal Contractors Hold Seventh Annual Convention

## *Resolutions Adopted Creating Office of Assistant Secretary to Do Field Work*

THE Annual Convention of the Missouri Sheet Metal Contractors' Association held at Sedalia, Missouri, on July 12th and 13th, will go on record as the most successful convention held by the State Association in the seven years of its existence.

The meeting opened with a short talk by A. M. Hoffman, member of the local arrangements committee, who then called on J. L. Babcock, Mayor of Sedalia, who handed the keys to the city over to the convention, assuring them of a hearty welcome, after which he was given a rising vote of thanks.

W. M. Otten, Second Vice-President, presided during the meeting. A report of the Secretary, Mr. B. Kolbenschlag, as well as the report of the Treasurer, F. T. Bokern, showed the Association in good, healthy condition.

The speaker of the morning was Dr. J. E. Cannady, President of the Chamber of Commerce of Sedalia, who used as his motif seven classes of customers with whom a business man deals, classified as follows, the impulsive, the deliberate, the indecisive, the decisive, the talkative, the silent and the distrustful customer, his subject being, "Selling Merchandise."

"The Progress of Research During the Past Year" was a very educational address next given by L. W. Millis, who used tables and figures to illustrate his talk.

### **Tuesday Afternoon Session**

The Tuesday afternoon session opened with a reading of the minutes of the 1926 convention by W. M. Otten. Harry S. Rogers, representing the Sheet Steel Trade Extension Committee, told the members of the work of the committee in his usually interesting manner and many were the questions that were asked of Mr. Rogers, not only

immediately following his talk, but the remainder of the meeting.

L. W. Millis was unanimously elected as delegate to the annual meeting of the National Warm Air Heating and Ventilating Association to be held at Urbana, Illinois, in December.

The following members were elected as delegates to attend the Annual Convention of National Association of Sheet Metal Contractors, to be held in Cleveland, Ohio, in June, 1928: Messrs. Gus Werner, Kansas City; A. Bahner, Sedalia; Wm. R. Seaman, St. Joseph; and Wm. F. Wehrman, St. Joseph.

### **The Evening Banquet**

The convention banquet Wednesday evening at the Hotel Bothwell was one good time from beginning to end, with not a single dull moment. The meal was good, the program exceptional and the dance music couldn't be beat. A trio of Sedalia boys sang and James Denny, also a home town boy, entertained with vocal solos. Harry Rogers read several humorous letters in which fun was good naturedly poked at a number of the leading lights. The speaker of the evening was Mr. Earl Y. Poore of Sedalia who took as his subject, "Beauty in Relation to Every-day Life," after which Gus Wenner, accompanied by Mrs. Percy Metcalfe of Sedalia, sang old-time favorites—"Little Gray Home in the West" and "The End of a Perfect Day."

### **Wednesday Morning**

Harry A. Call of the Copper and Brass Association talked to the boys very interestingly and the fact that his address went over big was demonstrated by the number of questions that were asked him.

Geo. A. Pickens, General Secretary of the Missouri Association, talked on "Missouri, Its Products,

Resources and Possibilities." Practically all of the day was devoted to routine business.

The resolutions committee presented several very important resolutions which were thoroughly discussed before being passed upon. Among the resolutions carried were: 1. Authorizing the State Secretary to hire an assistant, subject to the approval of the Board of Directors, said assistant to have charge of the books, records and moneys due the Association and perform such other duties as may be assigned to him by the Secretary. This assistant secretary to receive as compensation for his services a sum not to exceed 25 cents per member per annum, payable semi-annually, and in addition the sum of 50 cents per member for each new member added during the year; also an extra bonus of \$50.00 for each fifty new members obtained during the year. All expenses of the assistant secretary, incurred while traveling in the interests of the Association, are to be paid by the Association and the assistant secretary is to be given full per capita for each new member secured from any source whatever.

The election of officers resulted as follows:

B. Kolbenschlag, President; William Otten, St. Louis, First Vice-President; B. J. Bahner, Sedalia, 2nd Vice-President; W. A. Weiderman, Kansas City, Secretary; F. T. Bokern, St. Louis, Treasurer; Julius Geroch, Jr., Sergeant-at-Arms; Directors for three-year term, William R. Seaman, St. Joseph; G. E. Walter, Kansas City; Director for one-year term, H. W. Symonds, St. Louis.

Applications of the following new members were received and accepted: B. J. Bahner Sheet Metal Works, Sedalia; E. Clark Sheet Metal Works, Sedalia; J. W. Strain

Sheet Metal Works, Sedalia; Wm. R. Seaman and Wm. F. Wehrman, St. Joseph.

A committee as follows was appointed to revise the by-laws and have them printed without the necessity of submitting same to the Association: W. C. Weideman, Kansas City; H. A. Simons, St. Louis; A. M. Hoffman, Sedalia, and William

F. Wehmeyer, St. Joseph.

With a rising vote of thanks to all the speakers, to the Sedalia committees, to the Sedalia folks and everybody who helped make the convention a real success, the meeting adjourned, to meet next year at Kirksville at a time to be selected by the Executive Committee at their next meeting.

## *Like Father, Like Son Is Fact in Slothower Family at Dixon, Ill.*

*Elder Slothower Has Conducted Successful Sheet Metal Business for 27 Years*

**T**O have operated successfully a sheet metal shop in the same town for three decades is an accomplishment of which any man could be justly proud. It bespeaks continuous service on the part of the contractor and the materials that he placed upon the buildings in and about the city in which he worked. It shows that his workmanship has won him recognition from the townspeople.

The accompanying illustration shows the interior of Slothower Brothers sheet metal and furnace shop, located at Rochelle, Illinois. The two brothers are shown on the left, while the elder Slothower is standing on the right.

These two brothers come from a family of five boys, all of whom are sheet metal contractors and successful. These particular boys have been in business for 14 years in Rochelle, Illinois.

The father has been in business for 27 years at Dixon, Illinois, where he has built up an enviable reputation for himself. As mentioned heretofore, Mr. Slothower's five sons are all sheet metal contractors in their own right, a circumstance which must be a constant source of pleasure to him. The shop shown has a thoroughly modern salesroom, and all the most modern methods are employed in the conduct of the business.



Workshop of Slothower Brothers Sheet Metal and Warm Air Furnace Establishment at Rochelle, Illinois

### **Window Displays and Their Lighting Important Factors**

After an intelligently thought-out, well arranged display has been placed in a suitable window, nothing can contribute more to its drawing power than effective illumination. Artificial light, properly directed and distributed, in ample quantity, is just as necessary on dark days as during the hours of evening.

Nothing about a good window display is as truly economical and effective as ample lighting during all hours when any reasonable number of people are passing the window. In this case, the window should be equipped with at least six light outlets. These should be wired into place around the top corner of the window. Each outlet should carry a lamp of not less than 100 watt.

These lamps should be mounted in standard window lighting reflectors of a shape to project all the light inward and downward upon the display. Further they should be placed at such angles, laterally, as to direct the light from each about as indicated by the arrow heads in front of each on the blueprint.

No exposed, glaring lights should be in sight anywhere in the window. This refers to the too frequent practice of trying to light a window with one or more high-power bulbs hung from the window ceiling.

**Background Screen:** Another essential of effective display is that no condition be allowed to exist that would or can distract attention from the display itself. In this case that means cutting off from the view of the onlooker the sight of any action within the store. Therefore, a background is required that cannot be seen over from the sidewalk. The height should be sufficient, but not to interfere with the natural daylighting of the store.

This screen can be made in removable sections of beaver board. The beaver board should be inclosed in a light, but rigid frame and paneled with cleats on both sides nailed through to prevent warping. The panels and frame should be painted panels and frame should be in harmonious, contrasting light colors.

## The Editor's Conning Tower

### Revising Manufacturers' Sales Methods

**W**ARM air furnace manufacturers in the past have had a pet hobby of passing the "buck" to the furnace installer whenever brought to task about certain practices that have gone on in the industry.

From some of the practices indulged in, it would seem, that the manufacturers have a deal of house cleaning to do themselves before they can throw mud at the furnace installers. Their tactics in the matter of getting business, in many cases, could certainly stand considerable revision.

Some furnace manufacturers seem to think that if they can just hand the furnace installer enough taffy about greater sales, they can sell him furnaces by the carload, without thought of whether he can sell them or not. Sometimes this method works out to the advantage of the manufacturer, but in most cases it does not. Here's one in which it did not.

A certain furnace installer had been in the habit of buying two carloads of furnaces each year from a given manufacturer. The furnace installer was a young man, building a good business for himself. He had done so well that he had already been able to buy and pay for a home for himself and his small family.

Business slowed up slightly and the installer, deciding that he would stock only one carload, instead of his usual allotment, wrote the manufacturer to that effect. The latter, however, shipped the two carloads, as usual, but the installer refused to accept the second car. Demurrage charges began to pile up on the second car, and the manufacturer's salesman called on the installer and persuaded him to store the second carload of furnaces in his store room, with the understanding that the manufacturer was to send a salesman to sell this second car of furnaces.

The salesman came and sold about five of the carload, then left. A short time later the manufacturer began demanding payment of the installer for the second car of furnaces, on the ground that inasmuch as the installer had permitted the second carload of furnaces to be unloaded in his place of business, this act constituted its acceptance.

The manufacturer pressed the young furnace installer so hard that the latter was driven to the act of hiring a fire-bug to set his house afire in order to collect the insurance. The insurance in hand, the installer paid the furnace manufacturer for the second car. The insurance company, however, investigated the circumstances and finally collected sufficient evidence to convict him and send him to the penitentiary for a number of years.

It is, of course, not intended to condone the wrong doing of the furnace installer in resorting to such methods in order to get money. Any man who would

do such a thing is lacking in character and would be found out sooner or later.

But the thought intended to be conveyed here is the extreme futility of resorting to such practices in order to get a little extra business. The furnace installer in this case thought he was acting on his own good judgment when he refused to order the second car of furnaces. He was on the scene of action and perhaps had every good reason to think that he could not dispose of the extra car at that time.

Under the circumstances, why should a manufacturer thrust the man, unwillingly, into a snare of this kind. If the real truth were known, the money spent on shipping of that extra carload of furnaces most certainly wiped out all the profit, and the manufacturer, no doubt, dropped a lot more money besides.

It would seem the wise policy for some of the warm air furnace manufacturers to adopt the tactics of people selling other types of merchandise to dealers; namely, make surveys of the dealer's territory to determine the market for his product. Then confine the furnace installer to a certain specified number at each shipment. Find out the installers' needs and cater to them.

After doing this the manufacturer need have little fear that he will lose that man as a source of distribution of his product. The tendency today is to carry less and less inventories, and the manufacturer must make up his mind to cope with that situation in the best manner he can.

### A Message to Furnace Installers

**A**MERICAN ARTISAN, in its efforts to be of service to its readers, is making a collection of photographs showing warm air heating salesrooms that have been remodelled to conform to the newer ideas in merchandising.

It is believed that the only thing necessary to make a lot of furnace dealers realize that they are missing a bet by not having good windows is to show them how other men have benefited by changing their tactics.

If you have remodelled your salesrooms and window display space, let us have a photograph of the shop and window "before and after taking" or tell us about it and we will have a representative call with a camera and "shoot" it.

*We hope our many friends who have asked us for copies of the 4th Edition of Standard Code are not getting impatient. We had so many requests that our supply is exhausted, and we hope to have a new batch in several days, when all requests will be taken care of promptly.*



# Application of Welding to Automobile Bodies and Fenders

## *Much Work of This Character Can Be Had by Contractor*

By O. W. KOTHE, Principal St. Louis Technical Institute

**T**HE repairing of minor as well as some major cracks and bruises of automobile work is of interest to every tradesman as well as the welder. Today thousands of members of every trade enjoy the luxury of some kind of an automobile. Many of these folks begin making the car over almost immediately after they purchase it. Others find leaks in the radiator, cracks in the fender, damages in the body, etc., that can be quickly repaired with a welding torch.

So this article, as applied to automobile work, will interest many members no doubt. Others may gather ideas which they can apply to other work, and so a series of demonstrations are, no doubt, worth while. Welding can also be applied to numerous mechanical parts, as the engine, crank case, gear housing, etc., as well as the chassis, the springs and other parts. But in general the most popular use of the welding torch on cars is when the water cooling radiator becomes damaged, or the fenders become broken by frequent bending. So we shall confine ourselves more to the radiator and body equipment rather than to the heavier parts, since they are welded similar, as described in other articles of this series.

### **Radiator Is Source of Most Trouble**

Possibly the first trouble most folks meet with is the radiator—they let it freeze or become bruised in accidents, or, by fussing around, they punch holes in the delicate metal tubing, and then breaks occur of their own accord by too much rattling and bumping over rough roads. So the first thing is to make a study of the type of radiator your car possesses. It may be a small tubular like a Ford car uses, or a long flat tube, or take on the design

of a dozen or so of the honeycomb types.

### **Type of Blow Torch to Use**

A blow torch with a relatively long flame as oxy-hydrogen is very serviceable in reaching in in close places. In fact, it is the only satisfactory method of repairing radiator work, because a soldering copper is too clumsy and awkward, and even if it is forged to a long nose it cools off rather quickly to do any effective work. Most radiator work is made of very thin brass and it tarnishes or oxidizes in the atmosphere. Hence it must be cleaned where repairs must be made. But first it is well to locate the leak and then make a careful study of how best to get at the work without dismantling any more than necessary. In most cases the radiator must be removed, and the radiator shop charges from two to three dollars for removing and from four to six or ten dollars for repairing the leak. So six dollars is about a minimum charge where the shop must take the radiator off.

The general procedure is to remove the radiator from the car, then lay it in a tank of water and turn a few ounces of air pressure on after stopping up the hose connections. The air bubbles indicate the leaks, which are then marked, after which the radiator is laid on a bench and a person observes how he can get at the leak. Where the straight tube radiator (Fig. 1) is met with, the leaks by bruises are generally in the front, so by simply prying the fins to one side, a person can readily get at the tube. But where freezing or other abusive leaks occur, the break is liable to be inside somewhere.

In such cases a person cuts the fins over the effected series of tubes and bends them back in order to reach the leak. Thus, if the leak is exposed, as at C of the rear sketch

B, the repairs are easily made. But where the leak is inward two or three rows of tubes, the process is made tedious, as at F. Here the fins must be cut away and bent back to enable the flame of the torch to reach the affected part. We should say that the horizontal fins are used to hold the tubes straight to prevent warping and also to aid in diffusing the air straight back to better equalize the distribution of air over the entire face of the rear as well as the front.

Since radiators are constructed with a tank at the top and the bottom with the tubes in between, the water can circulate through the motor, the cool water settling to the bottom and the heated water discharged in the top. Quite often a leak occurs where the tubes are connected with the tanks, either top and bottom. In that case it is quite difficult to get at them from the outside, and it is better to cut a hole on the back side of the tank, as at D, across where the leak occurs. Then with the blow torch inserted in the hole, as at E, the leak is soldered. All repairing possible should be done from the rear side, and not disfigure the front side if it can be avoided.

### **Preparing for Soldering**

Most folks know the general procedure of soldering, but for the benefit of the few who may do other work, will say before solder can be made to adhere the metal must be thoroughly cleaned. This can be done by grinding down various shaped scrapers from old files so that knife edges, hook scrapers, etc., can be put to use. With these the brass is scraped and when bright the blow torch is applied with a touch of wire solder. This solder has the flux properties cast on the inside of the wire tube, so no additional flux is needed. It takes only an instant

to melt this solder and to heat the brass sufficiently to cause the solder to flow and adhere to it.

However, in difficult places where scraping of parts is difficult, then some hydrochloric acid (which is commercial muriatic acid refined) is taken on a brush or swab and rubbed over the affected part. This cuts the dirt off and polishes the brass if the acid is immediately washed off with water. Then, by applying "cut acid," which is hydrochloric or muriatic acid weakened by zinc, or where enough zinc is dropped in a vessel containing the stronger acid and this boils, eating up the zinc. When the acid stops boiling it is ready for usage, and is swabbed over the affected part. Or the ordinary string solder may be used which contains the flux for soldering. But care must be taken in applying the muriatic acid to brass or copper—it cleans it effectively, but it also quickly coats it with a film of oxide so that it will not solder unless washed off and the weaker flux is applied.

#### Experiment Before Welding with Solder

Workmen who are used to welding iron or steel should do quite a bit of experimenting first before attempting to weld with solder. The reason for this is, solder melts at a very low fusion point so that to concentrate too much heat on the metal turns it red quickly, and if not careful it can be burned, thus forming a glaze scale over it. When this is done the only hope is to scrape the glaze off, which is hard as flint. So tradesmen doing their first attempt at welding frail brass should experiment with scrap pieces. But when the right flame and time are acquired the soldering is done quickly, neatly and with little or no injury to other parts.

At G of Fig. 1 we show another style of radiator where it happens breaks are made as at c, d, f and g. Here in any of these leaks the affected place is cleaned with a small hook scraper made of steel spring wire and then the torch flame is adjusted to reach in with string solder and in an instant the leak is closed. The main thing to observe with this

type of radiator is the ends are soldered, so it is easy to melt out the solder from the ends. But with care and practice this can be easily accomplished. A person must know definitely how much heat to apply and watch closely the surrounding parts to observe if solder is melting from nearby places.

#### After Leaks Are Repaired

When all leaks are repaired the radiator is again plugged up and the air hose attached to the water tank, to see if more leaks appear. Where a person has no air pressure, the hose connections are stopped up with a cork and the radiator is filled full of water. Then, with a light mallet, the radiator is tapped at intervals to jar out any sediment that may stop a leak temporarily. When no leaks appear, the fins or other parts are straightened and fitted in place and soldered by tacking to the tubes here and there. When finished the repaired parts or the entire front or back is given a coat of lamp black and turpentine to give a uniform appearance.

At times the entire top or bottom tanks must be removed, as at Fig. 2. Here the torch is used for melting away the old solder, and when the leak is repaired the tank is resoldered in place with the blow torch. By means of the torch much work can be done that is difficult to achieve with the usual soldering copper. One of the most difficult tasks is to cut out a series of combs from a honeycomb radiator and then try to patch in a new set of cores from another old radiator. It can be done, but it is a tedious task, and after a person has done one he is not so eager to try a second, unless he has unusually good fortune. Some folks merely plug up a core or a tube when repairs are difficult. Possibly only one or two cores or tubes may not be serious, but now and then we meet with radiators that have an entire corner or a part side stopped up. Such practice prevents circulation and aids in overheating the engine. The fact is, if all the tubes or cores were not needed, the manufacturer would never have placed them there in the first place.

#### Welding Fenders and Bodies

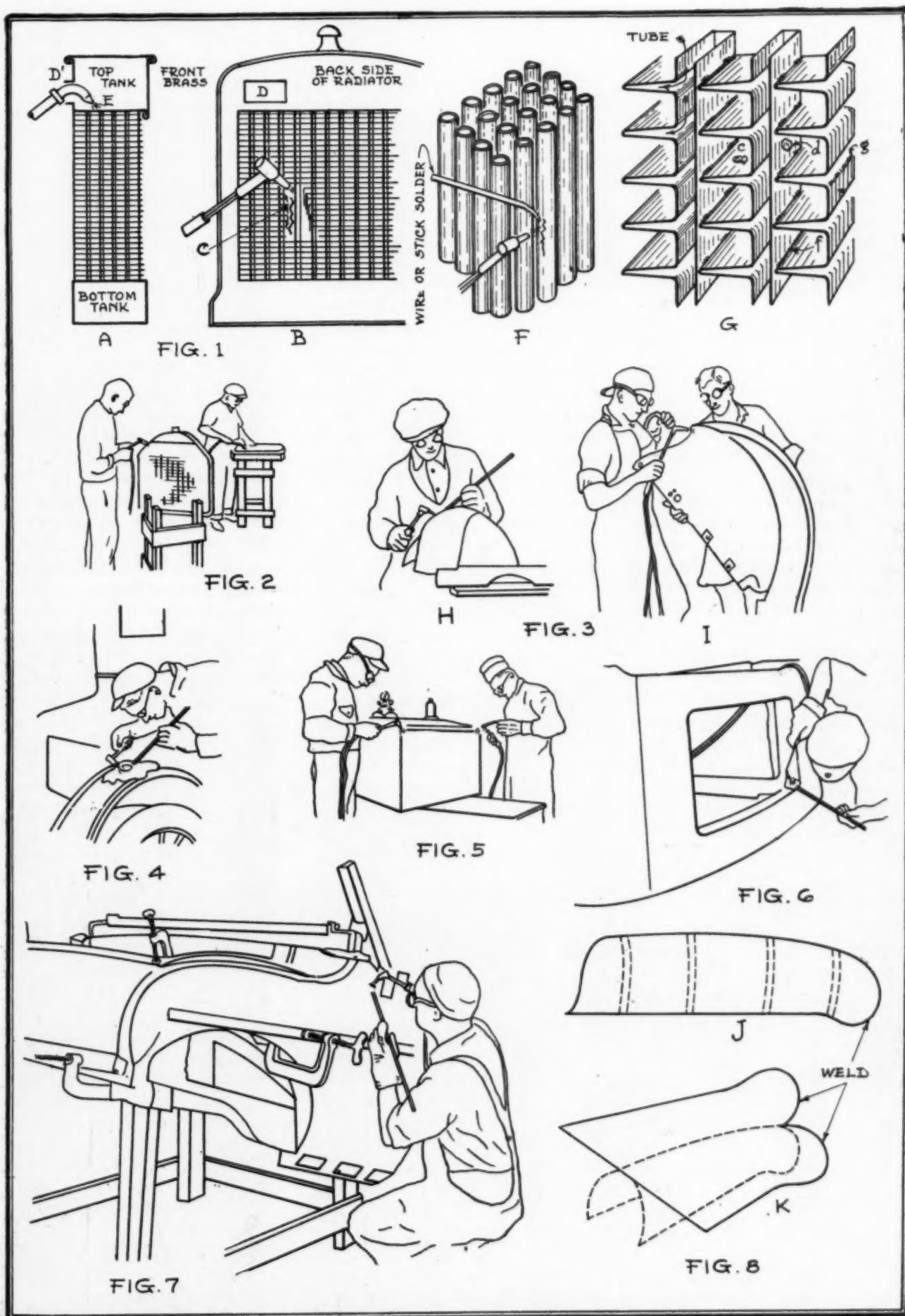
In the manufacture and repair of fenders, mud guards, running boards, splash skirts, oil pans, luggage cases, etc., the welding torch has become very useful. Quite often in rolling or stamping of fenders a thin spot occurs or a crack is developed, and in times gone by this piece would be thrown into the scrap heap. But now such places are welded—not with solder as the radiators were, but with regular welding rod, so a firm connection is made.

Thus, at H, Fig. 3, we show a sketch of a photograph of welding the mud skirt onto the edge of the fender. This is more approved than the older style of notching and making slip joints and soldering or riveting. After the weld is made, the corner is passed over the emery wheel and then the polishing wheel which trims up the connection to be quite invisible. Another view of a finishing torch on welding is shown in sketch I, Fig. 3, where the throat portion is well touched up, since here the greatest strain is imposed and where a break usually occurs first.

On some cars that have brackets riveted to the fender, the metal around the rivets often cracks or works loose. After a slight vibration is once developed it does not take long for a break to appear or further wear to show. So by applying a welding torch, the metal around the rivet can be renewed, as at Fig. 4, in a few minutes, where, if allowed to go, a new fender may be necessary. On comparatively new work, or repainted bodies, a cluster of wet asbestos is banked around the part to be welded. This keeps the metal and paint cool, and only scorches the paint where the weld is being made. After the weld is completed, some black enamel is painted over the weld and in a short time it will barely be noticeable.

#### Making Luggage Boxes

We may add that the making of luggage boxes for tourists may follow the same procedure. These boxes are made of from 20 gauge up to  $\frac{1}{8}$ -inch plate, and when the corners are welded a smooth ap-



Welding as Applied to Automobile Work



pearance can be made, as in Fig. 5. Such boxes must be designed to the places they are to fit. Some are made in a trunk fashion to fit in the back of the body by means of extra angle iron brackets, all welded in position to the box and the chassis. Others are made to fit on the front of the running board. Some concerns have built up a right respectable business on these types of boxes, which are extremely simple after a person gets his hand on. The lid or cover requires the most consideration, so it fits down evenly all around and preferably on a felt packing. This aids in holding the dust out and acts as a cushion when slamming the cover shut.

#### The Welding of Automobile Bodies

By means of the welding torch it has been possible to stamp out bodies more economical, that is, add a strip here or a tongue there, and weld in place. Formerly it would have required much waste to obtain the same result. So the welding of bodies, as at Fig. 6, is a commercial occupation and effectively takes the place of riveting with the possibility of bruising the metal, thus always being visible after painting.

Corners can be nicely filled in, as at Fig. 6, and this enables running a motorized hand emery wheel over the weld and by the corner, taking off any rough edges or high spots. Another example we show at Fig. 7, where a seam on a roadster body is being welded. Observe how the body is placed in a jig to keep square and true as well as prevent buckling. In bodies or tonneaus, which are stamped out with huge machines rather than by hand or trip hammer working as used to be the case, the metal often cracks and so these defects are welded and ground down and polished.

In late years, when all-metal bodies have become quite popular on the market, the innumerable ribs made of angles, channels, pressed bars, etc., are all welded in position, so the welder has a real job to perform on such bodies. When we see them all slicked up with eleven coats of paint, little do we think of the immense amount of work and plan-

ning that some one or a group of men had to do. These bodies are made of black sheets of steel, the same as the other open hearth iron sheets. They are not coated with zinc or galvanized or coated with lead as automobile plates are in small shop practice, but are left black so they can be easily welded, emiered down and painted.

Many of the young folks like to be speedsters, and so purchase a Ford chassis and build up some sort of body such as appeals for a time to their sense of artistic temperament. Possibly the canoe shape rear body is as graceful and popular as any. It can be easily made and involves less skill than most fancy sport bodies. So, at Fig 8, at J, we show a side elevation of the general outlines the way we desire the general shape. Space here does not permit a more elaborate layout, so the reader must follow the text closely.

After having the general outline decided upon as to length, height and general curvature, we draw lines to represent ribs, such as the dotted lines in elevation indicate. This gives us altitude between the several positions where you desire ribs or frames. Next you must detail a plan view, or at least a half plan, which gives the general curvature or lines from a top view. As the base will form a V-shaped triangle, the bottom edge should be made of angle iron or about 2x2 of hardwood stringers. When these are pegged down the ribs are built over this plan frame much like the ribs of the old covered wagons used years ago for traveling across the country.

The height of these should be made to conform to your elevation J measurements, while the rest of the curvature can be made at your pleasure, but preferably to conform to the ribs of a canoe. It is well to place these in an end view so a uniform curvature can be secured to each rib, and when the ribs are shaped up they are bolted, riveted or welded to the base frame. We should say these ribs can be made out of angle bars, channel bars of

small measurements or by wood frames.

When the ribs are all set, a large piece of ordinary building paper is laid over the ribs much as is shown at K. The rear end should be cut somewhat rounding to form a clove, and then simply lay the paper right over the frames. The paper is clamped or tacked at intervals along the front edges and this allows shaping up the rear more carefully. With scissors or knife, the paper is trimmed bit by bit and tested in position to see how it matches to your ideas. Sometimes it may be necessary to lower or reshape a certain rib or two, but that is a small matter. When the desired shape is produced, all edges are marked for cutting and bending, after which the paper is removed, trimmed out, and tried again to make sure it is exactly what is wanted.

After this the paper pattern is placed over your sheet of metal and the metal is marked accordingly. Thus it is possible to produce a first-class pattern without any geometrical laying-out knowledge. Most boat builders use this method and many automobile body designers follow similar tactics, only changing as becomes their work. The body is then shaped up and riveted, screwed or welded in place, while the tail end is also welded. Folks who have rather artistic designs can work out very classical bodies by making the sides and torpedo dash to correspond.

By this scheme, we are sure many a workman can enlarge his opportunities, not only as a welder in his own pet work but he can fluctuate into different professions, since welding is welding, as long as it is of a similar nature. While the material in this article may not fit many folks, still it will supply others of your craft with a greater working radius with possible openings in garages, shops, factories, aeroplane shops, government plants, or other places where welding must be done. Our aim here is to help our men to better help themselves—at least those who want to.

# Joseph Gardner Co., Indianapolis, Settled in New and Larger Quarters

*Shop Located Only Short Distance from Center of Town*

**S**HEET metal contractors who have occasion to be in Indianapolis can spend an hour or two very profitably in the new sheet metal shop of Joseph C. Gardner, Past President of both the Indiana Sheet Metal Contractors' Association and the National Association of Sheet Metal Contractors. While in Indianapolis during the Indiana Sheet Metal Contractors' convention, I had that pleasure.

Mr. Gardner himself, in his very gracious manner, escorted me all through the shop, a very large, light, 1-story structure at 149-151 Kentucky Avenue, located just a few squares from the Circle, or central part of town. As we passed from bench to bench under the four large skylights placed strategically in the roof of the building, Mr. Gardner pointed out to me the advantages to the men of the layouts as these were planned, and I must say to the credit of Mr. Gardner that this new shop is an inspiration and a sight well worth the time of every sheet metal contractor visiting Indianapolis to see.

Completing the inspection of the

ground floor of the shop, we descended into the basement, a spacious room extending under every portion of the building. Although the arrangements here were not yet completed, it is the intention of Mr. Gardner to reserve this space for the storing of stock and tools of all kinds. Easy access is had to the basement through an opening from the street, so that ladders, gutter pipes, sheets and other materials and tools can be readily passed up and down with the least possible lost motion or delay.

In the center of the basement there exists a 500-foot well, equipped with an electrically driven pump, the water from which was used by the former occupant of the building in some manufacturing process in which he was engaged. It is hard to tell just what use this well will be put to by Mr. Gardner, as, of course, very little is used in the sheet metal business.

I neglected to explain that on the main floor of the shop over each work bench is located a large electric lamp for use on extremely dark days, although even on such days

lights are hardly necessary. Beside the light socket, too, there is placed an insert plug, so that the workmen can plug into the circuit for any purpose without moving away from his bench.

The roof of the building is equipped with four large skylights made in the shop. In the manufacture of these skylights a unique feature has been inaugurated by Mr. Gardner. Each one of the four skylights has been constructed of a material different from that of any one of the other three. This was done for the purpose of testing these four materials under actual service conditions, to determine their several reactions to the weather and the various corroding fumes which emanate from the work benches of the shop itself. As time passes, Mr. Gardner will be able to compile data which will be extremely valuable to him as an adjunct to the sale of skylights.

The office of the new shop is also very well placed. It is located near the entrance to the building and is so arranged, as Mr. Gardner expressed it, "that if the pounding



New Modern Shop of the Joseph Gardner Company.

stops in the shop, he can see at a glance, without leaving the office, what the men are doing or are not doing.

These executive quarters are occupied by Mr. Gardner, his son, Ed., and the stenographer. Off to one side is also a separate office which can be used for conference purposes when occasion demands.

An enlarged portrait of the late Joseph Gardner, father of Joseph C. Gardner and founder of the business which now bears his name, hangs on the wall of the office facing the main entrance.

Mr. Gardner is very proud of his new shop and he has every right to be. It is well located, being easily accessible from two streets, as the

building is of the flat-iron type. It is well lighted and well arranged for convenience and quick handling of the work.

#### **Milwaukee Sheet Metal Contractors' Picnic to Be Held August 10th**

Announcement was made at the meeting of the Master Sheet Metal Contractors' Association of Milwaukee held July 6th that their next picnic would be held the second Wednesday in August, August 10th, at Knepel's Grove in Mequon.

A letter from the Sheet Metal Workers' Local Union No. 24 was read, and action was indefinitely postponed. Another letter from the American Brass Company,

offering to show their film on the various operations in the manufacture of sheet copper, was read and turned over to the state association.

The secretary was instructed to note in his next meeting report that members should send their remittances for the book being prepared by the Trade Development Committee of the National Association of Sheet Metal Contractors through the local secretary's office.

#### **Grand Rapids Folks Will Picnic July 30th**

The Grand Rapids Sheet Metal and Heating Engineers, like the State Association, are very cordial and wonderfully good hosts.

Announcements have just been issued by the Grand Rapids Association for their Annual Outing to be held at Camp Lake on July 30th.

Incidentally, Secretary Ederle of the State Association says wonderful plans are being made for the State Association Annual Outing to be held at St. Clair Flats August 18th and 19th.

The Michigan folks are not selfish. They do not confine their good times to their members, but regardless of where you live or whom you represent, just so you are in any way affiliated with the sheet metal or warm air heating interests, you can be sure of a royal welcome.

#### **Wisconsin Sheet Metal Men Approve Convention Year Book**

At the regular monthly meeting of the Master Sheet Metal Contractors' Association of Wisconsin held July 6, 1927, at Milwaukee, the members instructed their president and secretary to sign a contract for the publishing of a Convention Year Book for the next three years. This was done at the recommendation of the committee made up of the following members, C. C. Tolg, Alfred Goethel and L. F. Reinke.

Those present at the meeting were President C. C. Tolg, Waukesha; R. Jeske, Milwaukee; Paul Biersach, Milwaukee; H. Geussenhainer, Sheboygan, and Secretary L. F. Reinke.

## **Forty-Fifth Anniversary**

*Established March 22, 1882*

# **Joseph Gardner Co.**

## **ROOFERS and Sheet Metal Contractors**

*New Location*

## **147-153 Kentucky Ave.**

Where friends and patrons will receive the same courteous and prompt service that has been given them for the past forty-five years.



# *Random Notes and Sketches* By Sidney Arnold "The essence of humor is sensibility; warm, tender fellow- feeling with all forms of existence."—Carlyle.

R. H. Harrison, popular representative of the Rudy Furnace Company, called me up bright and early Monday morning, all excited. "Did you hear the news?" he asked. Before I had a chance to reply, he said, "Miss Patricia Ann, weight 7 pounds 7 ounces, has joined the Harrison family. She arrived Saturday, July 16th, at the Ravenswood Hospital, Chicago." Congratulations, Roy, Mrs. Roy and Patricia Ann.

Roy is a pretty good salesman. Here's hoping he can sell the young lady on the idea that children should be seen and not heard, especially during the "floor walking" hours of the night.

\* \* \*

Way back when Ralph Blanchard was just a common salesman and not the high and mighty President of the Hart and Cooley Company, in answering the ad of a hardware firm for a salesman he said that he was the greatest salesman in the world. They engaged him and gave him three lines of goods to sell anywhere in the West. They expected him to do great things.

After he had been away a week, and they had received no orders, they were surprised to get a telegram saying:

"I am not the world's greatest salesman. I am the second best. The greatest salesman was the man who loaded you up with these goods."

\* \* \*

Charlie Pearson of the U. S. Register Company has a friend who runs a big grocery store in Battle Creek. He told Charlie the following incident which struck him as rather amusing:

A "slow-pay" customer sent a note saying:

"Please send 6 dozen eggs; if good, will send check."

The grocer, however, was not doing any business on such risky

terms, so he wrote back: "Send check; if good, will send 6 dozen eggs."

\* \* \*

The following was overheard during the floor scrubbing hour at the Milcor plant:

"Does your man work, Mrs. Waags?"

"Oh, yes, he peddles balloons whenever there's a parade in town. What does your husband do?"

"He sells smoked glasses during the eclipses of the sun."

\* \* \*

The secretary of the bar association was very busy and very cross one afternoon, when his telephone rang.

"Well, what is it?" he snapped.

"Is this the city gas works?" asked Mrs. Frank E. Ederle softly.

"No, madam," roared the secretary, "this is the Bar Association of the City of Grand Rapids."

"Ah," in the sweetest of tones, "I didn't miss it so far, after all, did I?"

\* \* \*

Charlie Glessner is happy again. His collie who "up and walked out on him" five or six months ago, has returned. A little Italian boy brought him home. Where he found him he would not say, but Charlie doesn't care where he was—all that interests him is that he is home again. Needless to say the little Italian boy was happy, too.

\* \* \*

Salesman: "And what kind of motor car horn would you like, sir? Do you care for a good, loud blast?"

Hugh Doherty, haughtily: "No, I want something that just sneers."

\* \* \*

We enjoyed a very pleasant visit with Mr. F. A. Brooking of King Bowers Hardware Company, Le Mars, Iowa, who dropped in to see us Friday morning.

## A Clash

"Sir, how about this little bill?"

"What about the little bill?"

"This is Pay-What-You-Owe Week."

"I am observing Extension-of-Credit Week."

\* \* \*

## Famous Fairy Stories

"I'll pay you next week."

"You'll double your money in a year."

"It'll make 80 miles an hour."

"The tires are as good as new."

"Why, dear! I never look at another woman."

"You don't look a day over twenty."

"Not guilty."

"These eggs are strictly fresh."

"Every thread is pure wool."

"Fair and warmer tomorrow."

\* \* \*

Everybody, no matter how remotely connected with the warm air furnace industry, knows or has heard of Charles (Charlie) Smith, the dean of furnace men. Charlie is not quite as active as he used to be, so I am quoting an extract from a letter received recently from him by our manager, knowing you will all be glad to know that he is well and happy.

"I had a birthday May 31st. I was eighty-four. Last Friday the doctor examined me and said that if I keep quiet and behave myself I will live a great deal longer."

"My daughter from Chicago Heights took me to Los Angeles for three months—I returned the first of May and am better off here."

By the way, "Charlie" is living at 7404 Princeton Avenue, Chicago, when he is not visiting at Chicago Heights, and I know will be more than glad to hear from his old friends occasionally.

\* \* \*

The many friends of Joe Goldberg, popular Excelsior Chicago salesman, will rejoice to know that his young son Jack, who was quite seriously injured several months ago, is now fully recovered, and almost himself again. Few who saw Jack at the Chicago hardware picnic could realize that he had spent two long months in the hospital.

## Chicago Furnace Installer Employs Services of Finance Company

*Says Public Must Be Educated to Fact That Deferred Payment Increases Price*

**S**UCCESSFUL collecting is virtually a business in itself—a business which must be taken seriously, which requires a lot of thought, a lot of diplomacy and tact.

The rough-shod methods commonly used will not accomplish the desired results. They may get the money sometimes, but the cost is likely to be greater than the accounts are worth. There is no telling what harm even a deadbeat can do you.

A careful study of human nature

in general, and a thorough study of the individual traits of the persons with whom we are dealing will do much to reduce the hazards and lessen the disagreeableness of making collections.

On the other hand, there are a lot of warm air furnace installers and sheet metal contractors who, however, are pressed for time in the matter of collections. They are contractors and workmen rather than collection agencies; they assume that

if a man contracts for work to be done, he also has made provision for paying for the work to be done. The consequence is that many of them come to grief.

The whole truth of the matter is that many of these contractors have not kept pace with the development of business methods. They have not fully realized that the deferred payment is accepted as sound business practice today, within certain limits, of course, and they are not able to



Display Window of the Anderson Furnace Company, 4609 Elston Avenue, Chicago. A Code Symbol Is Located on the Door in the Direct Line of Vision of the Ordinary Person. Compare the Appearance of This Store Front with that on the Opposite Page. Which Gives the Better Appearance?

cope with the situation which requires them to accept payment for their work and materials in a series of small payments.

On the other hand, there are furnace men now doing business who have come to accept the deferred payment plan as a mode of doing business that has come to stay, and they have taken measures to do business on that basis.

customer and satisfy myself that he is going to be able to meet the payments as they fall due.

"These notes I then take and turn over to a finance company, adding the finance charges to the amount of the bill. I make it plain that this extra charge is the cost to the customer of doing business that way and seldom have a complaint about its addition; in fact, in many in-

tracting and warm air furnace installing.

"We are not in the business of finance. We are in the warm air heating and sheet metal contracting business. We realize to the full that we are constantly going to be called upon to extend credit to our customers, but we also realize that to extend credit indiscriminately is to impair our working capital and thereby jeopardize our business future.

"If the people wish to purchase their necessities on the deferred payment plan, that is all right with us, but we must educate them to expect to pay more for their merchandise when acquired via the partial payment route than when cash is paid for it. Other industries do it, notable among which is the automobile industry. Whenever a car is sold on the time payment plan, one-third of the total purchase price is required as a down payment. The other payments are spread equally over ten or twelve months. I have been unable to note any diminution of sales of automobiles on account of the finance charges that are made in addition to the regular purchase price of the car.

"There are many good finance companies doing business today and there is no reason why the warm air furnace installer should not avail himself of their services and pass the charges on to the customer. It is only when we really make a fair profit on the business of installing furnaces that we can afford to be in that kind of a business. We cannot make a fair profit on our businesses if we are going to be required to extend unlimited credit, and spend a great portion of our time and much money writing letters and making calls in an effort to collect money that is justly due us for services rendered.

Mr. Anderson is an advocate of direct-by-mail advertising and good window displays. The accompanying illustrations show the sales rooms of the Anderson Furnace Company and a circular used in direct mail work by that company last year. The illustration of the



**This Store Front Could Be Altered so as to Give It More of the Appearance of a Business House Than That of a Residence, and at Very Little Cost**

One of these furnace installers is A. Anderson, of the Anderson Furnace Company, 4609 Elston Avenue, Chicago, Illinois. "I have no trouble with my collections," said Mr. Anderson. "Whenever I am called upon to do business on the deferred payment basis, I arrange a series of notes, each one calling for the amount of the payment which the customer thinks he can pay each month or week, as the case may be. I, of course, inspect the credit of the

stances the customer has decided to pay cash for the work in order to avoid the extra payment.

"It is indeed rarely ever that we have an account come back to us for non-payment. As soon as we turn the notes over to the finance company, we are credited with the full amount of the bill by them. In this way our working capital does not become tied up in uncollectible accounts and our minds are free to go about our work of sheet metal con-



circular shown is greatly reduced in size, nor are the different colors used shown.

A unique feature of the Anderson Furnace Company is the extreme cleanliness which reigns throughout, not only in the sales rooms and win-

Adjacent to the main shop there is located a warehouse in which are kept the various items made up that go into the installation of a warm air heating system. These parts are made up by the men during the slack periods of the year and are stored

### Beh & Company, New York, Have New Circular on Register Shields

Beh & Co., Inc., 1140 Broadway, New York, makers of Gem register shields for warm air furnace registers, have recently issued a new and attractive circular and price list on their products.

Commenting on the service rendered by the register shield, an official of the company stated that the shield will cut down decorating

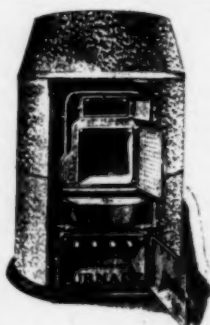
# VIKING SUPERHEATER FURNACES

**Now is the Time**  
to Equip Your Home  
with an up-to-date  
**Heating System**  
or Replacement of  
your Old Furnace

We Also Rebuild and Repair Old Furnaces

**CALL  
PALISADE 2651**

AND WE DO THE REST



The Superiority of the

**VIKING**  
Superheater Furnaces  
Is reason enough to  
Select a Viking

The Construction is based  
upon Approved Design  
and Principles—

**BURNS ANY KIND OF FUEL**

Soft Coal, Hard Coal and Coke  
Burns All Without Waste

THE VIKING'S DEEP CUP JOINTS PREVENT GAS, SMOKE OR DUST FROM GETTING INTO THE ROOMS OF THE HOUSE

### HEATING SERVICE INSURED BY OUR INSTALLATION

When your installation is complete, we give you a Signed Bond to replace any defective casting, without cost to you, for any part of the Viking Furnace that may prove defective.

### FOR HOMES ALREADY BUILT

Because Your Home is Already Built does not mean you have to put up with inefficient, unsatisfactory Heating. The Anderson Furnace Co. can install a Viking in Any House. New pipes can be put in between Walls to any Room in the House without damaging Walls or Woodwork and Registers in their proper place to assure correct heating with cold air returns for circulation. THE ANDERSON FURNACE CO. System of Home Heating and our Excellent Viking Furnace never fail to give satisfaction and our price is right. Let our Salesman call and go over the heating question with you and explain full details of installation and Why Warm Air Heating is better than any other Heat.

### CASH OR EASY TIME PAYMENTS

You can buy and pay for any Viking Furnace on terms you can afford. Cash or Easy Monthly Payments Extended 12 Months.

For Cash Payment We Allow A Liberal Discount.

**ANDERSON FURNACE CO.**

**4609-11 ELSTON AVENUE**

3 Blocks South of Lawrence Avenue

PHONE PALISADE 2651

CHICAGO, ILLINOIS

One of the Circulars Which Is Employed by the Anderson Furnace Company to Get Business. The Circular Shown Is, of Course, Greatly Reduced in Size

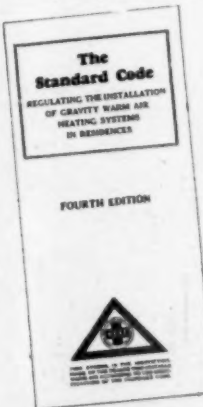
dow display, but in the work shop itself everything is kept in apple pie order. The shop is so arranged that the furnace can be loaded and unloaded from the trucks and stored with the greatest of ease. A small traveling crane is used for this purpose. The main shop is so arranged that the trucks can be backed into it.

against their use when business picks up.

With Mr. Anderson is his son, A. E. Anderson. Their methods of business conduct have won them a name for fair dealing in the area from which they draw their business and have to a great measure been the cause of their success.

You can obtain a complete copy of this 4th edition of the  
*Standard Code*

in pamphlet form as shown  
by writing



AMERICAN  
ARTISAN

It is FREE  
of course—  
a part of  
our service  
to help  
boost the  
*Standard  
Code*

costs and add longer life to the wall paper and draperies of the rooms where it is used.

A copy of this circular and price list should be in the hands of every warm air furnace installer.

### Union Fittings Made in Chicago

Word has come to us from the American Furnace Fitting Company, 410 North Western Avenue, Chicago, that they are now making a complete line of Union made furnace elbows and fittings, approved under labor condition No. 73.

The Republic Metalware Company, 1500 South Western Avenue, Chicago, are sole distributors.

If you know of any humorous situations in which you or your friends have found themselves, tell me about them. Others want to hear them, too.

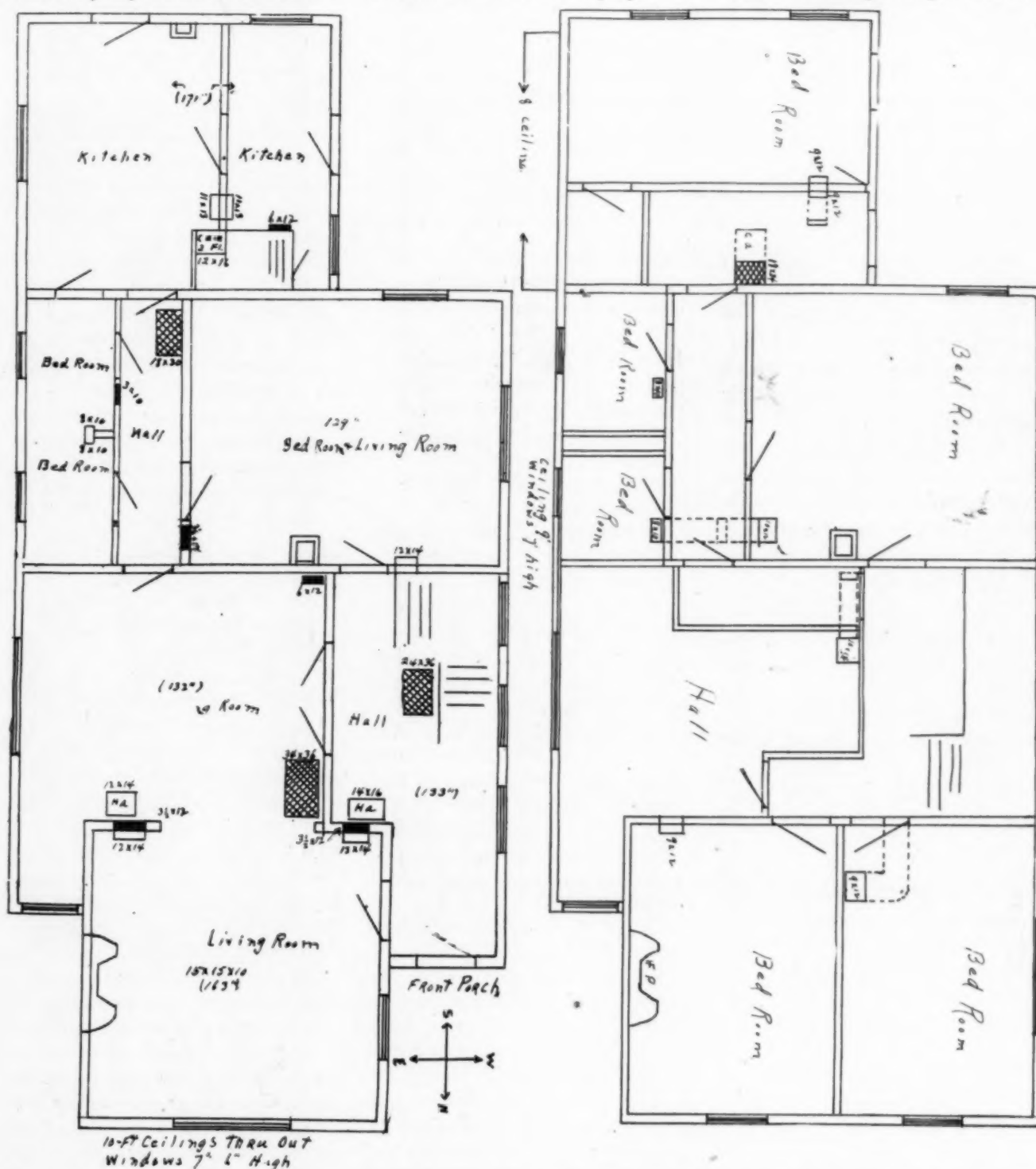
# Warm Air System Successfully Competes With Hot Water and Steam

*Gets Good Test in Rooming House  
Where All Rooms Must Be Closed*

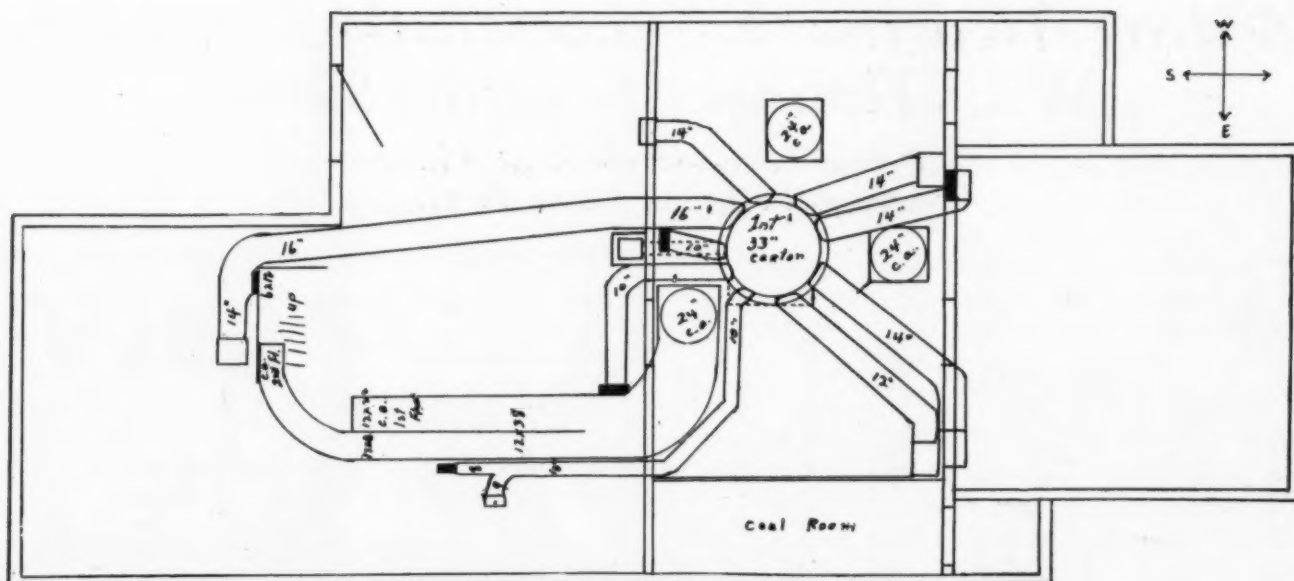
THE warm air heating industry is assuming such prominence that every day we hear of installers

who have been successful in taking furnace installation jobs away from the steam and hot water people.

It certainly speaks well for the industry when we find folks who ten or even five years ago would not



First and Second Floor Plans of the Warm Air Heating Job Which Competed Successfully with Steam and Hot Water



Basement Plan Showing Layout of the Warm Air Ducts

more have thought of putting warm air, or hot air as it was then called, than they would have thought of entering an airship to cross the Atlantic now turning to warm air as the best system of heating for their newly erected home.

The accompanying illustrations show the basement, first and second floor plans of a rooming house in Milwaukee, Wisconsin, that was to be heated to at least 70 degrees at 20 degrees below zero.

"The job was originally laid out for a steam or hot water plant," said W. H. Brown, manager and heating engineer of Brown Brothers, 3412 North Avenue, Milwaukee, Wisconsin, "but I finally convinced the owner that warm air was the heating unit he should use."

A unique feature about this job is that it is for a rooming house where all of the rooms are occupied by different people, consequently the rooms are closed most of the time, but still these rooms must all be heated to 70 degrees.

The system has been in operation for three entire seasons now, and the owner is entirely satisfied with its operation. He is more than pleased with the way in which his coal bill was cut down. An average of only 18 tons of coal were used to heat the house during the entire season.

#### Fifteen Tips for Good Sheet Metal and Warm Air Furnace Windows

1. Keep your windows clean. Have them washed frequently. If your own employes haven't the time, get outside help. It will pay.
2. Don't crowd your window.
3. Avoid the other extreme. Too little in a big window will cause the merchandise to be "lost."
4. Card holders are useful. They'll keep price cards from falling over on their faces.
5. Make your display attractive to the eye—and the purse—but don't make it "pretty" the merchandise is forgotten in admiration of the "trimmings."
6. Make your store front reflect you. It is the exterior which most people see. Impressions are made by exteriors.
7. Put the emphasis on the goods, not on the decorations.
8. Use art only to create a desire to buy the goods displayed.
9. Be sure your window lighting is the best obtainable.
10. Have the backing of your window high enough to shut off view of the store interior.
11. Dust out the window space frequently.
12. Never allow soiled or fly-speckled cards or merchandise to remain on display.
13. To help the eye to travel quickly from a card to the object

displayed, connect the two with white tape or ribbon. An arrow will have the same effect.

14. Invest a little money in stands on which to better display your merchandise. It will pay.

15. Empty cigar boxes make good "building blocks" to erect most any size or shape foundation for a display.

#### High Sense of Honor Required Where Credit Is to Be Given

Credit is such a personal matter and its soundness depends so largely upon human qualities that for its safety and its wide circulation no factor exceeds in importance a high sense of honor in treating the credit transaction.

Credit cannot be played with fast and loose; it will not respond to sharp practices; it will not perform its service in aid of business and in the functions of business at their present proportions unless good faith and a high sense of honor control those who give and those who receive. Success, as we designate it in business, will not remain permanently unless each credit transaction is founded on that type of personal honor that will leave nothing undone to confirm the contract and redeem the promise given in exchange, which is the real crux of the credit transaction.



# Selling Heating Service Instead of Just Heating Systems

## Proper Presentation of Facts Makes Selling Customer Easy

By J. C. MILES

“WELL, Mr. Brown, I suppose you have checked me up on the comparative fuel cost of a heating job and heating service which I mentioned in *AMERICAN ARTISAN* of May 21, and you probably found one point not proven. That was where it took ten pounds combustion to attain 50,000 heat units from a square foot of grate area. I want to explain that when the combustion rate is high, the efficiency of the heat is low, due to the loss of heat in the basement and up the chimney when forcing the first. The flexibility of the warm air furnace is quite convenient, but when forced, there is quite an appreciable loss of heat up the chimney. As a matter of fact, the efficiency of an ordinary heater at ten pounds combustion has been found to be 41.25 per cent, instead of 60 per cent, which you will see clears that point.

“Now in reference to the relative merits of warm air and radiator heat. I said I could convince you that warm air heat was nature's own principle.

“There are two kinds of heat to which we are sensible, radiant heat and convection heat. Radiant heat is the heat received by direct rays of the sun. Convection heat is the heat in the air. The sun shines on the earth and heats the earth by heat rays, then the winds move the air over the heated earth and convection the heat, by the rubbing effect, so if you will stop to think, it is the heated air that surrounds the earth or our bodies that effect the point of comfort. Just reflect on the old days of grate heated homes where your back would freeze, while your face burned up, or vice versa. There was no comfort until the air was heated so that we were com-

pletely enveloped in convection (warm air) heat.

“Now let us go back to nature, and prove that the supreme engineer designed a warm air system for the earth. At the North pole, where the sun strikes the earth at an angle, the air is frigid; whereas, at the equator, where the sun strikes the earth by a direct ray, the air is very hot.

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*In this second of the series of two articles J. C. Miles, Vice President of the Warm Air Furnace Fan Company, concludes his talk on a sales approach “packing in real punch” that will deliver the K. O. blow to any objection the prospect can have to the warm air heating system.*

*In order, however, to use these facts with the most effectiveness, the furnace installer should study them over carefully, so as to get them well in mind. The idea back of a sales effort of this kind is to convince the prospect that you know your stuff and that you have “the” product.*

*To get the most good from the article, it must be studied diligently.*

---

“To illustrate again. On the mountain top there is snow and freezing temperature; whereas, down in the valley, in that strata of air that is nearest to the earth, and point of convection, the orange blossoms are abundant and the temperature is 90 degrees in the shade. You see, Mr. Brown, the logic is all on our side, which accounts for the millions of dollars the radiator man has to spend in advertising and works of art to conjure up an emo-

tional prejudice in his favor. It is imperative to the radiator man that you be actuated by your emotions rather than reason. That is the reason for the beautiful blending of colors and artistic symmetry as a background to the radiator in a room. They must detract your attention, first, from the natural functions in heating a house, and, second, the unsightliness of the radiator itself.

“When we were depending upon nature to circulate the air through long or crooked pipes, I will grant you that our limitations were somewhat restricted, and I will also grant that there were a number of unsatisfactory attempts to exceed these limitations by over-enthusiastic or untrained furnace men. But conditions are quite different today.

“The National Warm Air Heating and Ventilating Association, in conjunction with the experimental work of the University of Illinois, has, in the last eight years, found the warm air furnace to be a very scientific medium of heating, as well as ascertaining its limitations in gravity circulation, which in turn quite accurately indicates the point where the gravity circulation leaves off and forced circulation begins.

“So you will see each condition becomes an individual engineering problem, which is as it should be. The point in economy which I have shown you is just one of the important phases in your problem, and I am quite sure if you will give this thing the consideration it deserves, you will agree with me that your heating system is an investment rather than a mere purchase.

“Authorities all agree that the three prime requisites to health and comfort are convection heat, humidity and air motion.

“Convection heat, as I have

shown, is warm air heat, and the warm air furnace by its very nature is an air heating element.

"Humidity is essential to coordinate the temperature in the exhalations of the body in that the body must exhale either moisture or heat or both, and the relation of moisture to temperature controls very largely the condition of comfort. Then, too, the respiratory organs are affected by the percentage of moisture in the air.

"A central humidifying device may be conveniently incorporated in a warm air furnace chamber, which will maintain the proper condition throughout the whole house.

"Air motion is necessary, medical authorities say, because without air motion there is a thin film of inert air next to the skin that prevents proper exhalation of the skin. This results in much physical discomfort. Sometimes severe headaches.

"The fact that headaches are more prevalent among women than men bears out this statement. Therefore, your heating system becomes an investment in health and comfort as well as financially.

"There is another development in the warm air field. That is a system which combines both the gravity and forced circulation system. This principle makes possible the use of both principles in the one system. That is to say, in normal weather the system may be used as a gravity system, but in severe weather the forced air principle is available. This is very convenient for early morning or quick heating periods. Forced circulation adds materially to the heating capacity of the system and in the morning or for quick heating periods the fan that forced the air may be turned on a few minutes, increasing the temperature, blowing the cold air out of the pipes and developing an otherwise slow or sluggish circulation into a perfect gravity circulation which in 75 per cent of the heating season will suffice to keep the house warm and comfortable. Then, too, the fan may be used at

any time to increase the circulation in the house or change the atmospheric condition.

"Now let us forget the cold days of winter and think of the heat of the hot summer months. Can't you remember one of those nights after a hot July or August day when you thought if you could get your mattress out on the porch roof in the cool night air that life would have a different aspect? Or do you remember coming home finding the wife heating up her blood by trying to cool herself by using a palm leaf fan? Well just visualize a fan in the heating system that can be turned on to draw the cool night air into your own bedroom, or the constant movement of air all through the house, giving the effect of a gentle breeze all day long at an expense of about one-third of one cent per hour. Think of a day's comfort for three or four cents. These are points to consider when thinking of a heating system. I will venture to say you had not thought of more than one phase.

"The home owner of tomorrow is going to demand these economies and comforts, and when you decide to sell your home, you can truthfully say that your home is modern."

### Retail Hardware Doings

#### Illinois

George Edgar has purchased the L. J. Smith Hardware store from R. G. Callison, North Henderson.

#### Iowa

Arthur Pingeno has sold his interest in the Fredericksburg Hardware store to Edwin Klotz.

#### Michigan

The Bee Hardware Stores, Detroit, have purchased the entire stock and holdings of Hallett's Hardware store at 2 North Saginaw Street.

#### Minnesota

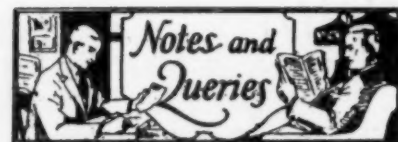
N. J. Martin, Wykoff, has purchased the Albert Steeland hardware store.

#### Missouri

C. A. White has purchased the Worth hardware stock from Ed Kelso, Grant City.

#### Wisconsin

The A. A. Fenn Hardware store, Delavan, was damaged by fire.



#### King Aerator Ventilators

From McClure-Johnston Company, 14th and Pike Streets, Pittsburgh, Pennsylvania.

Kindly advise us who manufactures King Aerator Ventilators.

Ans.—King Ventilating Company, Owatonna, Minnesota.

#### "Hotstream" Hot Water Heater

From "Forshaw" of St. Louis, St. Louis, Missouri.

Kindly inform us who manufactures the "Hotstream" hot water heater.

Ans.—Hotstream Heater Company, Cleveland, Ohio.

#### Globe Ventilators

From The Behler-Young Company, Bond, at Trowbridge, Grand Rapids, Michigan.

Please advise us who manufactures Globe ventilators.

Ans.—Globe Ventilator Company, Troy, New York.

#### Pilley Wire Brushes

From The Behler-Young Company, Bond, at Trowbridge, Grand Rapids, Michigan.

Please advise us who manufactures "Pilley Quick Wire Brushes," also wire furnace brushes.

Ans.—Pilley Packing and Flue Brush Manufacturing Company, 606 South Third Street, St. Louis, Missouri.

#### Large Fly Traps

From Clark Hardware Company, Windom, Minnesota.

Please advise us where we can secure large fly traps, about 18 inches high, 10 to 12 inches in diameter.

Ans.—The Ludlow-Saylor Wire Company, St. Louis, Missouri, and Stuber and Kuck Company, 2800 South Adams Street, Peoria, Illinois.

#### Pattern for Spiral Chute

From J. Bernstein Tin and Furnace Company, 2007 Cuming Street, Omaha, Nebraska.

Kindly send us a pattern for a spiral chute.

Ans.—A pattern for a spiral chute or conveyor appeared in the January 2nd, 1926, issue of AMERICAN ARTISAN on page 20.

## Houston Dudley Buys Controlling Interest in Gray and Dudley Co., of Nashville, Tennessee

*John M. Gray, Jr., Retires from Active Business*

**A**NNOUNCEMENT was made this past Saturday of the purchase of the controlling interest of the Gray and Dudley Company, Nashville, Tennessee, manufacturers of the Washington stoves and



Houston Dudley

ranges by Houston Dudley who was one of the principal owners and a leading factor for many years in the success of the Company.

The purchase price involved was one million dollars in cash and is one of the most important business deals that has been transacted in Nashville for many years.

The Gray and Dudley Company which was established in 1862 is one of the outstanding landmarks in the industrial development of Nashville, Tennessee, with a capital and stock amounting to about \$2,000,000. Originally the firm was a hardware company, but now is devoted exclusively to the manufacture of stoves and ranges. Several hundred persons are employed in the foundry which melts more than

one hundred thousand pounds of pig iron daily.

In referring to the transaction, the Sunday Nashville Tennessean says:

"Mr. Dudley, the new owner, is one of the leaders in the business life of Nashville. He has been long prominent in its civic affairs, having served most capably as the president of the Chamber of Commerce. Being thoroughly familiar with every detail of the business through long association with the company and a man of ability and ambition, we may be assured that Gray and

### **The Hardware Council recommends the following five things which retailers should do in the interest of more efficient distribution:**

1. Modernize stores and sample goods to get most attractive displays, price in plain figures and otherwise make it easy for customers to buy. Keep store and stock clean. Advertise intelligently and consistently.

2. Study business thoroughly and educate self in modern methods so as to be an efficient merchant. Train employees to sell and serve.

3. Meet all obligations promptly, take cash discounts and establish high credit standing.

4. Concentrate buying with wholesalers able to render most economical service. Study local conditions so as to determine the kind and quantity of goods to buy and competition to meet. Place advance orders for seasonable goods. Maintain complete stocks, but keep inventory as low as practicable by frequent purchases (full packages as much as possible).

5. Control the granting of credit and watch collections so as to determine losses and unnecessary risk.

Dudley Company will continue to show that progress and that gain in business that has characterized it in the past."

New officers of the Company will include besides Mr. Dudley as president, Foscett Brown as vice-president; James C. Lauderdale as secretary and treasurer, and Ernest Baldwin as superintendent of the foundry.

John M. Gray, Jr., a member of the family which gave its name to the firm in its foundation more than a half century ago, is retiring from the firm on account of ill health.

Mr. Dudley, who has always had active management of the stove department of the company, acquires the controlling interest of the company.

Mr. Brown, who is president of the Foscett Brown Manufacturing Company, in addition to his enterprise with the Gray-Dudley Company, is Mr. Dudley's son-in-law.

Mr. Lauderdale has served in the office of the company for the past 18 years, having been assistant treasurer for some time past. Mr. Baldwin has been assistant foundry superintendent for a number of years, having served in that department for the past 16 years.

Plans to expand the company's business are connected with the transfer of the properties to Mr. Dudley who foresees the building of an addition to the plant in the near future. One of the expansion plans of the reorganized company is the manufacture of an electric range and placing it on the market in company with the present line of Washington stoves and furnaces.

To Houston Dudley, who can truthfully be said to be one of the most popular of the Southern stove men, we extend our sincerest congratulations. It is a pleasure to broadcast an announcement that will bring such deep pleasure to the many friends of Houston Dudley.

### **Who Makes Small Snuff Boxes?**

TO AMERICAN ARTISAN:

Please advise who makes small snuff boxes.

WACO SHEET METAL WORKS.  
420 Webster Street,  
Waco, Texas.



# Upward Trend in Steel Market Is Noted— Heavy Finished Steel Prices Are Firmer

*Buying in Small Lots Characterizes Pig Iron  
Market—Nonferrous Metal Market Is Quiet*

**P**ART of the bulge in demand for finished steel that followed the July 4 holiday has been retained and July bookings, especially of steelmakers with a diversified line of products, will undoubtedly exceed those of June. While no decided improvement is in immediate prospect, the trend is moderately but unmistakably upward.

This also describes production and prices. Operating rates in the Pittsburgh and Chicago districts have remained stationary in the past week, a change from the declining tendency of recent weeks, while additional capacity has been put on at Buffalo and in the Mahoning Valley. Steel corporation subsidiaries are averaging 69 per cent and the entire industry 67 per cent.

Prices of heavy finished steel appear a trifle firmer as consumers continue small lot buying. Lacking the leverage of tonnage, most users talk more of delivery than of price.

## **Pig Iron**

At Pittsburgh while shipments of pig iron on contracts continue with more or less regularity new buying has halted. One steelworks interest sold only a single carload of special iron all last week, and this week business does not start out any better. Other merchant producers and steel interests are selling only single carloads or a few hundred tons of foundry iron, at \$18, valley.

The price of \$17.50, valley, remains untested and is the nominal market on tonnage as the last large lot sold in this district brought that price. Malleable iron is selling in single carloads occasionally at \$18, valley.

No activity is noted in the market for basic iron, which is quoted nominally at \$17.50, valley. A few carloads of bessemer iron are booked almost every day at \$18.50, valley. Low phosphorus iron is in-

active; it is quoted at \$27.50, valley. Consumers are not stocking any grade, depending on incoming shipments. In many instances iron is unloaded from the railroad car to the cupola or furnace.

Pig iron buying increased last week in the Chicago market. Sales and inquiries were numerous but mainly involved lots ranging from a carload to 100 or 150 tons.

Some buyers have sought coverage for the entire second half at \$20, Chicago furnace, and furnaces have been willing to place this business on their books.

At Birmingham a price of \$17.25 for No. 2 foundry iron, 75 cents under the base of several months, has failed to develop any great amount of business.

Further curtailment of production is considered. Eleven furnaces in this state are making foundry iron. It is expected surplus stock again will be reduced this quarter.

## **Copper**

Copper was firm at 12.62½ cents for a week or more, with just enough buying each day to establish the price. Then on Friday afternoon, the market became more active, and by the end of the week, some producers had booked enough business that they were unwilling to book more at the same price. After a few producers began to ask 12.75 cents, others soon followed, with big inquiry continuing and this level now is recognized as the market.

## **Zinc**

Moderate business was done in prime western zinc, a large part of it when the market slumped under 6.20 cents East St. Louis. The quickness with which buying brought firmness again was significant. The strength of the ore market continues to be an important factor in zinc.

## **Tin**

An unusually large turnover of tin has been made lately, a large part of it being buying by dealers, but more lately consumers also have bought in the New York market.

Users have been interested a little farther ahead in tin lately than they have been generally in the past year or two. Low prices recently attracted buyers to the market, so that a substantial recovery took place, but large supplies on the way from the Orient and still being shipped from there appear to be a reason against a great amount of strength at this time.

## **Lead**

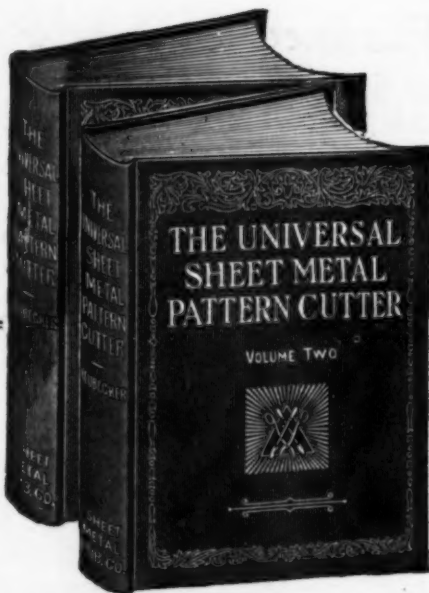
The lead market is showing a much improved tone, especially in the western positions. Producers report large orders on top of an already pretty well booked condition, and whether we can use the foreign ore lead or not the domestic demand from present appearances will take care quite comfortably of the domestic output at the recent reduced scale, and probably eat into stocks as well during the current month.

## **Solder**

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$39.25; commercial 45-55, \$36.25; plumbers', \$33.25, all per 100 pounds.

## **Old Metals**

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$16.75 to \$17.25; old iron axles, \$20.00 to \$20.50; steel springs, \$14.25 to \$14.75; No. 1 wrought iron, \$11.00 to \$11.50; No. 1 cast, \$12.75 to \$13.25, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 9 cents; zinc, 3½ cents; cast aluminum, 13¾ cents.



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**AMERICAN ARTISAN  
AND HARDWARE RECORD**  
620 South Michigan Ave. CHICAGO



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TRADE *F. Dieckmann* MARK

*Quality and Service Made 'em Famous*

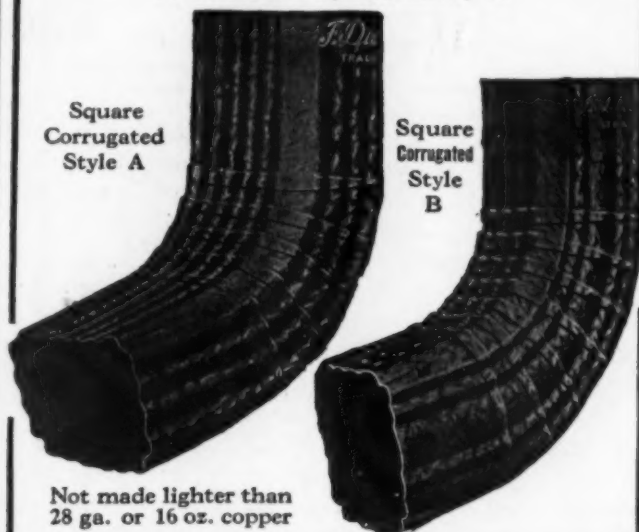
Made of one piece of heavy gauge material, in all styles and angles from 10 to 90 degrees, of 24, 26, 28 ga. ternes, then galvanized after formation.

**DIECKMANN**  
**Elbows and Shoes**  
*are the standard of the market  
and always give satisfaction*

*Send for new catalogue 26 showing complete line*

**The Ferdinand Dieckmann Co.**

P. O. Station B, Cincinnati, O.



Not made lighter than  
28 ga. or 16 oz. copper

# Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

## METALS

### PIG IRON

Chicago Fdy., No. 2.....	\$20 00
Southern Fdy., No. 2.....	23 26
Lake Superior Charcoal.....	27 04
Malleable .....	20 00

### FIRST QUALITY BRIGHT TIN PLATES

IC 20x28 112 sheets.....	\$25 10
IX 20x28.....	29 60
IXX 20x28 56 sheets.....	16 20
IXXX 20x28.....	17 55
IXXXX 20x28.....	18 95

### TERNE PLATES

	Per Box
IC 20x28, 40-lb. 112 sheets	\$26 00
IX 20x28, 40-lb. 112 sheets	28 50
IC 20x28, 25-lb. 112 sheets	21 75
IX 20x28, 25-lb. 112 sheets	24 25
IC 20x28, 20-lb. 112 sheets	20 00
IV 20x28, 20-lb. 112 sheets	22 50
IC 20x28, 15-lb. 112 sheets	18 50

### "ARMCO" INGOT IRON PLATES

No. 8 ga. up to and including	
1/4 in.—100 lbs.....	\$4 55

### COKE PLATES

Cokes, 80 lbs., base, 20x28.....	\$13 60
Cokes, 90 lbs., base, 20x28.....	13 80
Cokes, 100 lbs., base, 20x28.....	14 00
Cokes, 107 lbs., base, IC 20x28.....	14 30
Cokes, 135 lbs., base IX 20x28.....	16 40
Cokes, 155 lbs., base, 56 sheets.....	9 20
Cokes, 175 lbs., base, 56 sheets.....	10 05
Cokes, 195 lbs., base, 56 sheets.....	10 90

### BLUE ANNEALED SHEETS

Base 10 ga.....per 100 lbs.	\$3 50
"Armco" 10 ga.....per 100 lbs.	4 00

### ONE PASS COLD ROLLED BLACK

No. 18-20.....per 100 lbs.	\$3 75
No. 22.....per 100 lbs.	3 90
No. 24.....per 100 lbs.	3 95
No. 26.....per 100 lbs.	4 05
No. 27.....per 100 lbs.	4 10
No. 28.....per 100 lbs.	4 20
No. 29.....per 100 lbs.	4 35
No. 30.....per 100 lbs.	4 45

### "ARMCO" GALVANIZED

"Armco" 24.....per 100 lbs.	\$5 15
-----------------------------	--------

### GALVANIZED

No. 16.....per 100 lbs.	\$4 30
No. 18.....per 100 lbs.	4 45
No. 20.....per 100 lbs.	4 60
No. 22.....per 100 lbs.	4 65
No. 24.....per 100 lbs.	4 80
No. 26.....per 100 lbs.	5 05
No. 27.....per 100 lbs.	5 15
No. 28.....per 100 lbs.	5 30
No. 30.....per 100 lbs.	5 70

### BAR SOLDER

Warranted 50-50.....per 100 lbs.	\$39 25
----------------------------------	---------

### Commercial

45-55.....per 100 lbs.	36 25
Plumbers.....per 100 lbs.	33 25

### ZINC

In Slabs.....	\$ 8 50
---------------	---------

### SHEET ZINC

Cash Lots (600 lbs.).....	\$11 75
Sheet Lots.....	12 75

### BRASS

Sheets, Chicago base.....	17 1/2 c
Mill Base.....	17 1/2 c
Tubing, brazed base.....	26 1/2 c
Wire, base.....	18 c
Rods, base.....	15 1/2 c

### COPPER

Sheets, Chicago base.....	21 1/2 c
Mill Base.....	20 1/2 c
Tubing, seamless base.....	24 1/2 c
Wire, No. 9, B & S Ga.....	17 1/2 c
Wire, No. 10, B & S Ga.....	17 1/2 c
Wire, No. 11, B & S Ga.....	18 1/2 c
Wire, No. 8, B & S Ga. and heavier.....	17 c

## LEAD

American Pig .....	\$ 6 95
Bar .....	7 95

## TIN

Pig Tin.....per 100 lbs.	\$71 00
Bar Tin.....per 100 lbs.	72 00

## HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

### ASBESTOS

Paper up to 1/16.....	6c per lb.
Roll board.....	6 1/2 c per lb.
Mill board 3/32 to 1/2.....	6c per lb.
Corrugated Paper (250 sq. ft. to roll).....	\$6 00 per roll

### BRUSHES

Hot Air Pipe Cleaning Bristle, with handle, each	\$0 85
--	--------

### Fine Cleaning

Steel only, each.....	1 25
-----------------------	------

### BURRS

Copper Burrs only.....	40-55
------------------------	-------

### CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 40
American Seal, 10-lb. cans, net	80
American Seal, 25-lb. cans, net	2 00
Pecora.....per 100 lbs.	7 51

### CHIMNEY TOPS

Adams' Revolving	Wt. Dos.	Prize Dos.
4 in.....	21 lbs.	\$11 00
6 in.....	24 lbs.	11 50
7 in.....	30 lbs.	13 50
8 in.....	33 lbs.	15 00
9 in.....	51 lbs.	16 50
10 in.....	56 lbs.	18 00
12 in.....	66 lbs.	22 00
14 in.....	110 lbs.	36 00

### CLINKER TONGS

Front Rank, each.....	\$0 75
Per doz.....	8 40

### CLIPS

Damper Acme, with all tail pieces, per doz.....	\$1 25
Non Rivet tail pieces, per doz.....	25

### COPPERS—Soldering

Pointed Roofing	
3 lb. and heavier.....per lb.	40c
2 1/2 lb. ....per lb.	45c
2 lb. ....per lb.	48c
1 1/2 lb. ....per lb.	55c
1 lb. ....per lb.	60c

### CORNICE BRAKES

Chicago Steel Bending Nos. 1 to 6B.....	Net
---	-----

### CUT-OFFS

Gal. plain, round or cor. rd.	
26 gauge.....	30%
28 gauge.....	35%

### DAMPERS

"Yankee" Hot Air	
7 inch, each 20c, doz.....	\$1 75
8 inch, each 25c, doz.....	2 40
9 inch, each 30c, doz.....	2 75
10 inch, each 32c, doz.....	3 00

### Smoke Pipe

7 inch, each.....	\$0 35
8 inch, each.....	40
9 inch, each.....	50
10 inch, each.....	60
12 inch, each.....	90

### Reversible Check

8 inch, each.....	\$ 56
9 inch, each.....	70

### Diamond Smoke Pipe

7 inch, doz.....	\$ 5 00
8 inch, doz.....	5 00
9 inch, doz.....	12 00
10 inch, doz.....	15 00

## Adams' Sheet Metal

7 inch, doz.....	\$ 1 60
8 inch, doz.....	2 20
9 inch, doz.....	2 60
10 inch, doz.....	2 80

## DIGGERS

### Post Hole

Iwan's Split Handle (Eureka)	
4-ft. Handle.....per doz.	\$14 00
7-ft. Handle.....per doz.	36 00
Iwan's Hercules pattern, per doz.....	14 90

## EAVES TROUGH

Galv. Crimpedge, crated 75 & 5%	
Zinc, "Barnes".....	60%

## ELBOWS

Conductor Pipe	
Galv., plain or corrugated, round flat Crimp.	
28 Gauge.....	60%
26 Gauge.....	45%
24 Gauge.....	15%

## Galv. & Terne Steel

Plain Rd. and Rd. Corr.:	
28 Ga.....	60%
26 Ga.....	45%
24 Ga.....	15%

## Square Corrugated

No. 28 Gauge.....	50%
26 Gauge.....	35%

## Portico Elbows

Standard Gauge Conductor Pipe, plain or corrugated.	
Not nested.....	70 & 5%
Nested solid.....	70 & 5%

## Sq. Corr., A. & B. & Octagon:

28 Ga.....	50%
26 Ga.....	35%

## Portico

1", 1 1/4", 1 1/2".....	45%
-------------------------	-----

## Copper

16 oz., all designs.....	45%
--------------------------	-----

## Zinc—

All styles.....	60%
-----------------	-----

## ELBOWS—Stove Pipe

1-piece Corrugated, Uniform Blue "Milcor" No. 28 Gauge, Doz.	
5-inch.....	\$1 25
6-inch.....	1 35
7-inch.....	1 75

## Special Corrugated

6-inch.....	\$1 00
7-inch.....	1 60

## Adjustable—Uniform Blue

"Milcor" No. 28 Gauge, Uniform Blue.	
5-inch.....	\$1 75
6-inch.....	1 85
7-inch.....	2 15

## WOOD FACES—50% off list.

## FENCE

726-6-12 1/4 (100 rods).....	\$28 68
1948-6-14 1/4 (100 rods).....	43 62

## FILES AND RASPS

Heller's (American).....	50-10%
American.....	60-10%
Arcade.....	50%
Black Diamond.....	5 4
Eagle.....	50%
Great Western.....	50%
Kearney & Foot.....	50%
McClellan.....	50%
Nicholson.....	50%
Simonds.....	60%

## FIRE POTS

Clayton & Lambert's	
East of west boundary line of Province of Manitoba, Canada, No. Dakota, So. Dakota, Nebraska, Kansas, Oklahoma, Amarillo, San Angelo and Laredo, Texas.....	52%
West of above boundary.....	48%

## Geo. W. Diener Mfg. Co.

	Ea.
No. 02 Gasolene Torch, 1 qt.....	\$ 5 55
No. 0250, Kerosene, or Gasolene Torch, 1 qt.....	7 50
No. 10 Tinner's Furn. Square tank, 1 gal.....	12 60
No. 15 Tinner's Furn. Round tank, 1 gal.....	12 00
No. 21 Gas Soldering Furnace.....	3 60
No. 110 Automatic Gas Soldering Furnace.....	10 50

## Double Blast Mfg. Co.

Gasolene, Nos. 25 and 36.....	60%
-------------------------------	-----

## Quick Meal Stove Co.

Vesuvius, F. O. B. St. Louis	30%
(Extra Dict. for large quantities)	

## GALVANIZED WARE

Pails (Galv. after made), 10-qt.....	\$2 12
Tubs (Galv. after made), No. 1.....	6 00
No. 2.....	6 85

## GLASS

Single Strength, A, 25-in. brackets.....	87%
Single Strength, A, 34 to 40-in. bracket.....	86%
Single Strength, A, all other brackets.....	86%
Double Strength, A, all sizes.....	86%

## HANGERS

Conductor Pipe	
Milcor Perfection Wire.....	25%
Eaves Trough	
Milcor Eclipse Wire.....	15%
Milcor Triplex Wire.....	10%
Milcor Milwaukee Extension 10%	
Milcor Steel (galv. after forming) List.....	plus 12 1/4%
Milcor Selflock E. T. Wire, List.....	plus 50%

## HOOKS

Box V. & B. No. 1, each.....	\$0 26
------------------------------	--------

## Conductor

"Direct Drive" Wrought Iron for wood or brick.....	15%
--	-----

## Hay

V. & B. No. 1, each.....	\$0 26
--------------------------	--------

## HUMIDIFIERS

"Front-Range" Automatic	
In single lots.....	50%
In lots of 10 or more.....	50 5%
In lots of 25 or more.....	50-1
Vapor pans, etc., each.....	50%

## LIFTERS

Stove Cover	
Coppered.....per gro.	\$6 00
Alaska.....per gro.	4 75

## MAILLETS

Tinners Hickory.....per doz.	\$2 25
------------------------------	--------

## MITRES

Galvanized steel mitres,	
28 Ga.....	70
26 Ga.....	60-20

## NAILS

Cut Steel.....	\$4 35
Cut Iron.....	4 35

## Wire

Common.....	2 95
Cement Coated.....	2 95

(Continued on Page 168)





**ARCHITECTURAL  
SHEET METAL  
ORNAMENTS**

Made of  
**ZINC  
COPPER  
BRONZE**  
OR  
**LEAD**

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**METAL CEILINGS**

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**CHICAGO ILLINOIS**  
Milwaukee Office: 853 Grant Blvd.

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Write for new Steamer Schedule between Cleveland and Buffalo via ERIE during July and August

Connections at Buffalo for Niagara Falls, Eastern and Canadian points. Connections at Cleveland for Cedar Point, Put-in-Bay, Toledo, Detroit and points West.

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Ask your ticket agent or tourist agency for tickets via C & B Line. Your rail ticket is good on our steamers.

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Cleveland, Ohio

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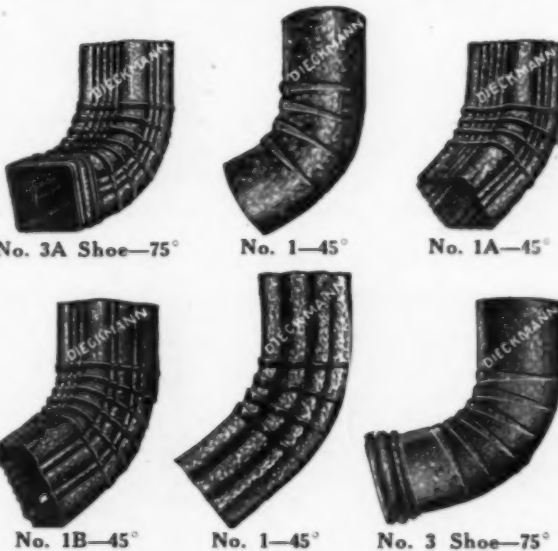
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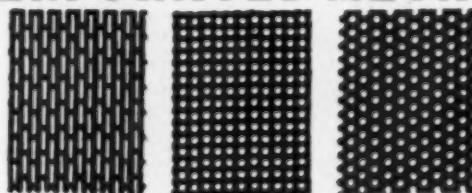
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**PERFORATED METALS**



All Sizes and Shapes of Holes  
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For All Screening, Ventilating and Draining  
**EVERYTHING IN PERFORATING METAL**

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NETTING, POULTRY		ROOFING	
Galvanized before weav- ..	57½-5%	Best grade, slate surf. pre- ..	Per Square
ing		pared	\$ 2 30
Galvanized after weaving. ....	52½-5%	Best talc surfaced. ....	2 65
		Medium talc surfaced. ....	2 00
		Light talc surfaced. ....	1 20
		Red Rosin Sheeting, per ton ..	57 00
PASTE		SCREWS	
Asbestos Dry Paste:		Sheet Metal	
200-lb. barrel	\$16 00	7, ¼x¼, per gross	\$0 52
100-lb. barrel	8 75	No. 10, ¾x16, per gross	68
35-lb. pail	3 50	No. 14, ¾x¼, per gross	89
10-lb. bag	1 10		
5-lb. bag	60		
2½-lb. cartons	35		
PIPE		SHEARS, TINNERS' & MACHINISTS'	
Conductor		Viking	\$22 00
Cor. Rd., Plain Rd. or Sq.		Lennox Throatless	
		No. 18	35%
		Shear blades	10%
		(f. o. b. Marshalltown, Iowa.)	
Galvanized			
Crated and nested (all ..	75-2½%	SHIELDS, REGISTER	
gauges)		No. 1 "Gem" floor	\$12 00 doz.
Crated and not nested ..	70-15%	No. 2 "Gem" wall	6 00 doz.
(all gauges)			
		SHOES	
		Galv. 28 Gauge, Plain or cor- ..	60%
		rugated round flat crimp	45%
		26 gauge round flat crimp	15%
		24 gauge round flat crimp	15%
		SNIPS, TINNERS'	
		Clover Leaf	40 & 10%
		National	40 & 10%
		Star	50%
		Milcor	Net
		SQUARES	
		Steel and Iron	Net
		(Add for bluing, \$3 per doz. net.)	
		Mitre	Net
		Try	Net
		Try and Bevel	Net
		Try and Mitre	Net
		Fox's	per doz. \$6 00
		Winterbottom's	10%
		STOPPERS, FLUE	
		Common	per doz. \$1 10
		Gem, No. 1	per doz. 1 10
		Gem, flat, No. 3	per doz. 1 00
		VENTILATORS	
		Standard	30 to 40%
		WIRE	
		Plain annealed wire, No. 8, ..	\$3 05
		per 100 lbs.	
		Galvanized barb wire, per ..	3 90
		100 lbs.	
		Wire Cloth—black painted, ..	1 65
		12-mesh, per 100 sq. ft.	
		Cattle Wire—galvaniz'd catch ..	3 65
		weight spool, per 100 lbs.	
		Galvanized Hog Wire, 80 rod ..	3 18
		spool, per spool	
		Galvanized Plain Wire, No. ..	3 40
		9, per 100 lbs.	
		Stove Pipe, per stone	1 10
		WRINGERS	
		No. 790, Guarantee	each \$5 10
		No. 770, Bicycle	each 4 70
		No. 670, Domestic	each 4 35
		No. 110, Brighton	each 3 70
		No. 750, Guarantee	each 5 10
		No. 740, Bicycle	each 4 70
		No. 22, Pioneer	each 3 40
		No. 2, Superb	each 2 65

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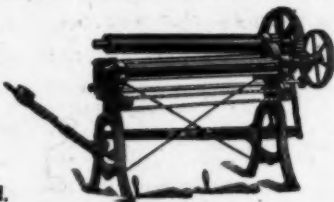
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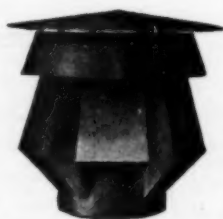
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New Jersey Zinc Co., The, New York, N. Y.
- Zinc—Polished.**  
Apollo Metal Works, La Salle, Ill.



## WANTS AND SALES

Any yearly subscriber to AMERICAN ARTISAN may insert advertisements of not more than fifty words in our Want and Sales Columns WITHOUT CHARGE.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired.

## BUSINESS CHANCES

**Lightning Rods**—Dealers who are selling Lightning Protection will make money by writing us for our latest Factory to Dealer Prices. We employ no salesmen and save you all overhead charges. Our Pure Copper Cable and Fixtures are endorsed by the National Board of Fire Underwriters and hundreds of dealers. Write today for samples and prices. L. K. Diddle Company, Marshfield Wisconsin.

**For Sale**—Sheet Metal shop, good stock of goods, good tools and machines, residence 10 rooms—modern, one ton truck—Chevrolet. Shop 30x36, garage 20x24, upper story for storage. All on 1 lot 50½x165. City of 5000 population. Competition 1 small shop. Cash or terms. Address—B-77, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 3-3t

**For Sale**—Brand new Sturtevant furnace cleaner with its attachments at a discount. This cleaner has never been in use, as it was purchased under a partnership agreement which has been dissolved since the delivery of cleaner. Inquire Budd, the Furnace Man, 266 Fayette St., Hammond, Indiana. 2-3t

**Wanted**—Small hardware, or hardware and combination shop in town above 1,000 population. Preferably in northern Iowa or southeastern Minnesota. State your best cash price and give full particulars in first letter. Address—B-79, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t.

**For Sale**—Sheet metal and roofing business; shop completely equipped; fine location; small rent; established in this location ten years; good reputation; never in need of work. 921 W. 87th Street, Chicago, Illinois. Phone Stewart 8922, Beverly 6710. 2-3t

**For Sale**—Good plumbing and heating business in central Illinois. Good reason for selling (on account of health). Address—B-75, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 3-3t

**For Sale**—Complete sheet metal shop, Reo Speed wagon and residence. Address—B-80, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t.

**For Sale**—Hardware stock, fixtures and tools at Wenona, Illinois. Wish to retire from business. A bargain. Address—G. W. Kreider, Wenona, Illinois. 4-3t.

## SITUATION WANTED

**Situation Wanted**—By Tinner and Furnace Installer. Can do inside and outside work. 25 years at the trade. Can do anything that comes in country tinner shop. Also help in hardware store. Address Tinner, 661 Manomin Avenue, St. Paul, Minnesota. 3-3t

## SITUATION WANTED

**Situation Wanted**—A first class, all around mechanic, layout man and foreman desires position. Cornice, skylight, blow pipe, ventilation, roofing, heating, etc. At present foreman of large shop in Eastern Ohio. Hard worker and steady. Please state wages and hours. Address—B-76, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 3-3t

**Situation Wanted**—Permanent position by capable sheet metal worker, pattern cutter and A1 furnace man. Eighteen years' experience; married; good habits; Missouri or states adjoining preferred. Please state full particulars and wages in first letter. Address B-81, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t

**Situation Wanted**—Heating engineer with ten years' sales experience in hardware, sheet metal products, furnaces and supplies is open for position. Prefer to sell Steel furnaces. Give full particulars in answering. Address—B-74, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 3-3t

**Situation Wanted**—By capable mechanic in sheet metal shop as foreman or manager; also production man in sheet metal department of furnace manufacturer. Address B-66, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 1-3t.

**Situation Wanted**—By middle aged man. A-1 sheet metal worker, on cornice, skylight and ventilation. Experience in all classes of sheet metal work. Absolutely reliable. Address Dan Coleman, 1524½ Broadway, Mattoon, Illinois. 1-3t.

**Situation Wanted**—Permanent position by capable plumber carrying Illinois and Wisconsin license. Lead and iron worker. Thoroughly reliable. Address B-69, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 2-3t



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**WARM Air Furnace and Furnace Supply Manufacturers** who are desirous of securing high grade sales managers and worth while traveling men will find that a Special Notice advertisement in these columns will produce results.

**AMERICAN ARTISAN**

has put many a good man in touch with progressive manufacturers.

This is the best personnel market page in the field—use it.

## SITUATION WANTED

**Situation Wanted**—About August 1st, sheet metal worker of wide experience will be free. First class shop man and pattern cutter. Neat and accurate mechanic and competent to act as foreman or assistant if required. Good health and habits. Address—B-73, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 3-3t

**Situation Wanted**—By an experienced sheet metal and furnace installer; steady employment; married; 50 years old; steady habits. If interested write Wm. R. H. Cooke, 1523 North 5th Street, West, Cedar Rapids, Iowa. 2-3t

**Situation Wanted**—By sheet metal worker and furnace installer. Fifteen years' experience. Address "Tinner," Room 37, Columbia Hotel, Rockford, Illinois. 2-3t

**Situation Wanted**—A first class sheet metal worker and furnace man who also understands the making of electric signs. Southwestern states preferred. Address—Box 2417, Los Angeles, California. 4-3t.

## HELP WANTED

**Wanted**—A first-class sheet metal worker; knowledge of plumbing preferred. One capable of doing anything that comes in an ordinary shop, gutter, blowpiping, roofing, etc. Must be capable of doing good work in reasonable length of time. Give references, experience and wages. Address B-82, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t

**Wanted**—Man who can do eaves spouting, furnace work and plumbing. Town of 2,000 in lower Michigan. Must be strictly temperate. Protestant preferred. Wages 60c per hour. Steady work the year around for the right man, with chance for advancement. Address—B-78, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t.

**Wanted**—At once good all around tinner and furnace man. Must also do plumbing. Must be good workman. \$30.00 per week for 10 hours per day. Steady job the year around for the right man. Address—Chris Ehlinger, Vinton, Iowa. 4-3t.

**Wanted**—Combination tinner and plumber with some sales ability. Must help clerk Wednesday and Saturday nights. State your price per week for a 52 week per year job. References required. Address—Wm. Wilker, Wyoming, Iowa. 3-3t

**Wanted**—A combination sheet metal, plumbing and heating man. 53 hours per week. Well equipped shop. Good Minnesota town. Address B-63, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 2-3t

**Wanted**—Competent sheet metal worker to take charge of sheet metal department of a combination shop. Would lease to some ambitious mechanic who wants to make better than wages. Address Box 724, Lancaster, Calif. 4-3t

**Wanted**—Sheet metal worker and furnace man that can do square duct ventilation from blue prints. State qualifications and wages wanted in reply. Also when you can come. Noble Sheet Metal Works, Rhinelander, Wisconsin. 2-3t

**Wanted**—Two sheet metal workers. Union shop. Only first class mechanics need apply. Address—Herbert Bartholomew, 307 Carroll Street, Elmira, New York. 4-3t.

**Wanted**—An all-around sheet metal worker. Must be experienced and reliable. Address Hayes Sheet Metal Works, 111 North 3rd Street, DeKalb, Illinois. 2-3t

Mention AMERICAN ARTISAN in your reply—Thank you!

**TINNERS' TOOLS**

Wanted—One second-hand 8-ft. steel cornice brake; must be in good condition; state price. Address B-71, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 2-3t

Wanted — Second-hand tinner's tools and machines. Write and state lowest prices for cash. Address C. S. Johnson, Dell Rapids, South Dakota. 4-3t

**BOOKS**

The Ventilation Handbook, by Charles L. Hubbard. A practical book designed to cover the principles and practice of ventilation as applied to furnace heating; ducts, flues and dampers for gravity heating; fans and fan work for ventilation and hot blast heating by means of a comprehensive series of questions, answers and very plain descriptions easy to understand. Price \$2.00. Order from Book Dept., AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

Manual of Automotive Radiator Construction and Repair, by F. L. Curtman and T. H. Leet—Anyone interested in Radiator Repairing will find the 185 pages of practical instructions and the 120 illustrations showing actual construction and repairing a big help. In a condensed manner some four to five thousand answers to questions are given. It is thoroughly practical as both authors are men of wide experience in this work. Printed in large, easy to read type. Measures 5 1/2 x 9 inches. Price \$2.50. Order from Book Dept., AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois.

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in Texas, Oklahoma, Arkansas, Louisiana, Kentucky, West Virginia and Kansas, to sell the new improved Gas Range. Liberal commission. References required. Address, Arnold F. Glass Gas Range Company, 1027-1029 Ave D. South, Birmingham, Ala.

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**AREX**  
Original  
Siphonage  
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Only Rival!  
200,000 Perfect  
Installations!

Write for prices today  
**AREX COMPANY** 1581 Conway Bldg.  
CHICAGO

**SPECIAL NOTICES****SALESMEN WANTED**

Large successful stove manufacturer of a complete line of coal, wood, and gas ranges, cook stoves, heaters and parlor heaters, has still several territories open. Low manufacturing and material costs enable us to meet any competition. Patterns all of latest design. Will consider only experienced men who can show successful records. Address W-32, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 4-3t.

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We are in need of two managers and three salesmen to sell Round Oak Furnaces. Call or write, 711 South Wells Street, Chicago, Illinois. Round Oak Heating Company.



Pat.  
Applied  
For  
**SIPHONAGE VENTILATOR**  
Simple in design—Accurate in detail.  
**EFFICIENT IN EXHAUST**  
Write for prices.  
**AKRAT VENTILATORS, INC.**  
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**SPECIAL NOTICES****Manufacturers  
of  
Warm Air Heaters**

**H**ERE'S the salesman  
you're looking for.

He can help you in that sales drive that you are putting on—he gets results—he knows the game—he knows the trade and he is well known and respected by thousands of live, high class warm air heater installers throughout the country and especially in the middle west and west.

He has called on the trade and sold warm air heaters for many years—yet he's an up-to-date salesman who works every week of the year—rain or shine.

This salesman's name is  
**AMERICAN ARTISAN**

and you can secure his  
services at once.

Write today and get complete details concerning his ability to work for you and with your regular salesmen.

**SHOP OWNERS  
ATTENTION!**

**H**ERE is something new in the way of service for you. We have added a new facility that you can take advantage of, our

**PRIVATE  
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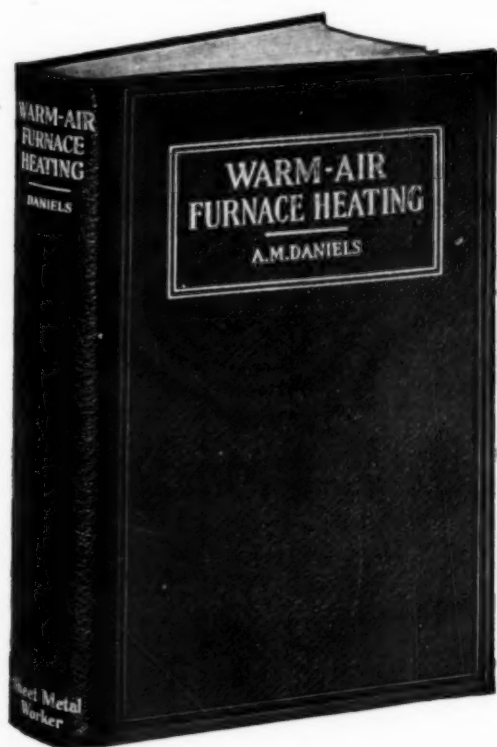
**W**E are prepared to advise you on Business administration, management, better methods, Technical problems, many phases of your own Shop and its greater success are covered in this service that goes to you personally.

Write for further information on this splendid, new service to help put your business on its feet, at very reasonable cost.

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# A New Book on Warm Air Heating

*Just off the Press—Now ready for you*



IT IS the book that thousands have been asking for—a book on Warm Air Furnace Heating that is UP-TO-DATE—a book that covers every phase of the subject giving exact data based on research work.

Written by A. M. Daniels.

Here is the book that will enable both the experienced furnace man and the student to obtain a working knowledge of up-to-date scientific warm air furnace heating.

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3. Types of Warm-Air Furnaces.
4. Details of Furnace Construction.
5. Heat Losses.
6. Effect of Register-Air Temperature, Leader Area and Size of Wall Stack Upon Heating Effect Produced.
7. Insulating Coverings and Their Effect Upon Leader and Wall Stack Operation.
8. Casing Diameter vs. Furnace Capacity.
9. Air Supply to Furnace.
10. Furnace Capacity and Rating.
11. Register Grilles vs. Plant Capacity.
12. Chimneys and Flues.
13. Humidity.
14. Evaporating Pans.
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*450 pages, 7x9 inches*

*Bound in semi-flexible imitation leather--*

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Enclosed find \$5.00 for which send me WARM AIR FURNACE HEATING by A. M. DANIELS.  
10% discount allowed on book and renewal subscription if ordered together.

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Street Number.....

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Corrugated P.S.S. Roofing  
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Before you buy any sheet metal  
Products consult your MILCOR  
Net Price Book.

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Interlock Conductor Pipe and  
Downspouts  
Conductor Pipe Hooks and Fasteners  
Strainers  
Kuehn's Korrekt Kutoffs  
Cutoffs and Funnels  
Ends and Drops  
Conductor Pipe Elbows and Shoes  
Speaking Tubes, Elbows, etc.  
Roof and Box Gutters  
Hangers for Gutters  
Ornamental Conductor Pipe Heads  
and Bands  
Formed Valley, Roll Valley, Roll  
Flashing  
Plain and Corrugated Ridge Roll  
Ornamental Ridging  
Continuous Hip Shingles  
Finials (*Globe, Gable, Hip*)  
Ornamental Ridge and Hip Tile  
End Wall and Side Wall Flashing  
Gambrel Roof Joints  
Roofing Tools, Cement, Solder, Nails,  
etc.  
"Titelock" Spanish Metal Tile Roofing

"Titelock" American Metal Tile  
Roofing  
"Titelock" Metal Shingles  
"Titelock" Hip and Ridge Tile  
Flashing, Finials, etc.  
"Invisible Joint" Metal Ceilings and  
Walls  
Ornamental Metal Cornices  
Architectural Ornaments  
Marquees, Copper and Zinc Crestings  
Friezes, etc.  
Industrial Ventilators and Skylights  
Farm Ventilators and Cupolas  
Stock Tanks and Farm Specialties  
Weather Vanes, etc.  
"Porto" All Metal Garages

### METAL LATH

Stay-Rib No. 1  
3/8" Stay-Rib No. 2  
3/4" Stay-Rib No. 3  
Netmesh Lath

"Expansion" Corner Beads Nos. 1 & 2  
Bull Nose "Expansion" Corner Bead  
No. 10

"Expansion" Casings, Nos. 4, 6, 8, 9  
"Expansion" Base Screed  
"Expansion" Flashing  
Concealed Metal Picture Molding  
"Neverbreak", "Superior" and  
"Milcor" Corner Beads  
Corner Lath (*made from Netmesh  
lath*)  
Plain and Curved Point Base Screeds  
Cold Rolled and Hot Rolled Partition  
and Ceiling Channels  
Steel Domes for Reinforced Concrete  
Construction  
Contraction Joint Road Strips  
Crimped Furring  
Wall Ties, or Brick Bonds  
Metal Window Stools, Chair Rails,  
Cove Bases, etc.  
Metal Chalk Troughs  
Stove Pipe, Elbows and Accessories  
Furnace Pipe, Elbows and Fittings  
Warm Air Registers and Faces  
Cold Air Intakes and Faces  
Wilder Metal Pipe and Elbows  
Asbestos Paper, Furnace Cement and  
complete accessories for warm air  
installations.

Consult Your MILCOR NET PRICE Book Daily.

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